

**FREE SHERLOCK 2 BOOK! MORE DISK & NET SEARCH TIPS**

**MORE NEWS, MORE REVIEWS**

www.macworld.co.uk

# Macworld

## *Web tips*

**Speed up your  
life online**

### **Grand scan**

**Scanners under £150**

**PLUS! Best scanning tips**

### **PowerBook pro**

**Get the most from your portable**

### **Web animation**

**Live effects, filters, symbols...**

### **Serious fun**

**Go faster gaming**





# 82 Getting the most from the Internet is all about honing your search techniques know-how. We give you the definitive 'how and where' guide to finding what you want on the World Wide Web.

June 2000

## read me first

Simon Jary, editor-in-chief

Wouldn't you want to impose stringent legal constrictions on a company that showed overt signs of monopolistic practices? How about the billion-dollar company that sells not only a successful operating system, but all-encompassing business applications that are bundled with every compatible consumer PC, makes the number-one database on its platform (but markets it under a different company name), pressures its users into using one particular Web browser, and is also trying to dominate the ultra-lucrative market of Internet streaming-media?

Every government in the world should be demanding that this rampant monopolist be split into three or four separate companies – especially as this company even makes every single computer that can run its operating system. Yes, I'm talking about Apple. I'm not suggesting that Apple should be torn apart by the feds or Eurocrats. The Mac maker is, after all, holding on to only 5 per cent of the personal-computer market.

Over the years many analysts have suggested that splitting Apple into separate software and hardware business units would benefit the company. Apple Soft could develop the Mac OS to run on Intel processors, and sell more copies of ClarisWorks and FileMaker Pro to millions of Windows users. Apple Hard could make great-looking and super-powerful computers not only for the Mac OS, but for Windows and Linux as well. Apple wouldn't be suing so many copycat PC makers if it made iMacs for Windows itself.

Microsoft, on the other hand, is a whole new pack of tigers. Yet, the US Justice Department is demanding that the Bill Gates empire be chopped into competitive parts. A few years back, Bill suddenly realized that the Internet really was going to be so huge that even his operating system and business-applications monopoly was in danger from new network-based technologies. Bill ordered his company into one of the most radical and successful business-strategy U-turns of all time. It was like Coca-Cola suddenly making biscuits.

Microsoft soon had the number-one Web browser in the world. Its consumer OS, Windows 98, had Internet Explorer built right into it. Using Netscape Navigator, would just be silly. And Microsoft spent over \$2 billion making Windows 2000 much more than just Internet ready.

On top of all that, Microsoft is threatening to move into games hardware with its X Box (three times more powerful than Sony's PlayStation2), and into the burgeoning handheld and Web-appliance markets.

US lawmen have been chasing Microsoft for some time. They couldn't touch the \$400-billion software giant for being successful. But they did nail it on its breath-taking anti-competitive business practices: bullying, threatening and giving away for free whatever its rivals sold for a living.

Despite Microsoft bending further from the truth than Hans Christian Andersen, keeping its mouth shut tighter than Harpo Marx, and doctoring vital courtroom video evidence, the lawyers got their prey. Now they want to nobble it. Microsoft won't give in without a very long drawn-out appeal, so don't expect an end to hostilities before Christmas.

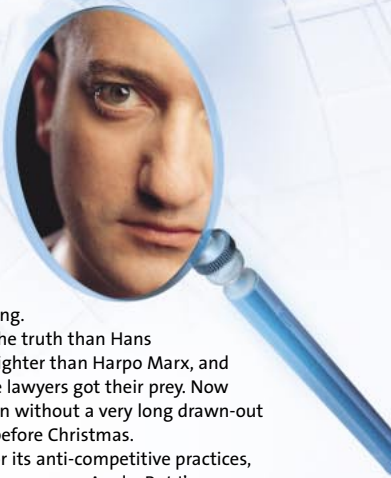
Microsoft should certainly be punished for its anti-competitive practices, especially as some of these were aimed at our very own Apple. But I'm more than a little worried by a Microsoft split into equally dangerous pieces.

While business dominance and operating-system hegemony no doubt helped Microsoft sew up the business-applications market, some level of blame should be shouldered by those companies that threw up their hands and gave in. I can't see how you can attack Microsoft for selling lots of copies of Word, Excel and PowerPoint when these are best-of-breed applications. What else is there on the Mac to rival Word? Corel has done nothing to WordPerfect for years. As for spreadsheets that rival Excel...

The US Justice Department believes that the best competitor to Windows will come from a Microsoft Office company. What does that say about all the other software companies out there?

Imagine the possible consequences of a double-headed Bill Gates... As far as I can see it, the break-up proposal will lead to two monopolies instead of one. Cutting a beast like Microsoft into two pieces won't make each section half as powerful. Wounded only to begin with, it's more likely to be just as hungry and twice as angry. Yes, we might get Office for Linux – but all that's going to achieve is certain death to all the little companies developing business apps for the fledgling operating system.

Bisecting Apple into competing business units is probably still a worthy topic of debate. Hacking up Microsoft is surely half baked. You don't need to have a sweet-tooth for Bill Gates to see that this is a bananas split. MW



73

91

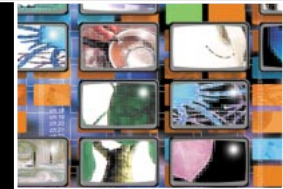
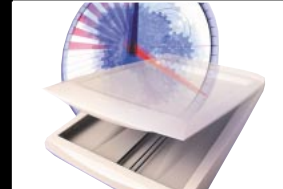
105

109

116 competition

65

19



features



11 This month's cover CDs



- 5 read me first What will a split-up mean for Microsoft?
- 43 first contact Mac OS X could give Apple global OS control.
- 45 prochak Don't let Gates pick your Net pocket-device.
- 210 desktop critic It's not just colours that have changed in OS X.

opinions

### 73 Scanners

Entry-level scanners under the microscope.

### 82 Web searching

Get the most out of the Web with our simple search tips.

### 91 PowerBook tips

How to use your PowerBook like a pro.

### 95 Games

Transform an old Mac into a game addict's dream machine.

### 99 create graphics

Scan the right way Improve a scan's quality before even using an image-editor.

### 105 create web

The moving image Add simple but effective animations to Web pages.

### 109 create graphics

Photoshop Produce startling results using Photoshop's Difference mode.

### 113 create graphics

Painter Use natural-looking effects to add life to illustrations.

### 117 secrets & q&a

Voice control Tips and workarounds for Mac OS 9's voice-recognition software.

regulars

### 8 How to contact Macworld

Who's who, and who's won what.



### 120 Macworld subscriptions

Unbelievable value! Get a free copy of Live Picture Photovista when you subscribe!

### 138 Career Moves/Training

Job vacancies and training. Get it right.

### 123 Buyers' Guide

Mac system advice; Star Ratings; plus a full year's index.



### 141 Apple Reseller Guide

A complete listing of Apple-accredited dealers for the whole of the UK, plus AppleCentre focus.

reviews

### Macworld has it covered

- 46 Netscape 6 preview edition
- 47 Mac OS 9.0.4; ZipCD USB
- 48 Route 66 2000
- 51 Lotus Notes Release 5
- 52-53 G4 upgrade cards; e-pac
- 55 pdfToolbox 1.1; Quite a Box of Tricks 1.2; Transverter Pro Plus
- 56 Sid Meier's Alpha Centauri; Madden 2000
- 58 FotoStation 4.0; Art Explosion
- 60 Phaser 750; AR-C150/Fiery RIP
- 63 Details 3.0.1
- 65 Stowaway; SimCity for Palm
- 67 PhotoGenetics; Watch & Smile
- 68 Grand Central Pro 2.0; Pro-Five

news

### in-depth stories incisiveness exclusive tests

- 16-17 Office 2001 for Mac
- 18 Consumer-friendly Linux
- 19-20 NAB broadcasting show
- 22-23 Apple's Net-release flurry
- 24 Microsoft split decision
- 26-27 MetaCreations splits up;
- Bryce's uncertain future
- 28 Mac graphics-card boom
- 31 PowerBook rumpus
- 32 Mac OS X headache
- 34 Business News
- 37-40 Product News

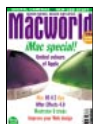




# Macworld

☒ On The ultimate reference guide and news source for the Macintosh market.  
☐ Off

## Subscribe



Active  
Inactive

Find out how you can get hold of Live Picture Photovista **FREE** when you subscribe to Macworld – see page 120.

?

**Subscribe**

Macworld (UK) is an independent journal not affiliated with Apple Computer Inc. Apple, the Apple logo, Mac, and Macintosh are registered trademarks of Apple Computer Inc.

All contents © IDG 2000, except articles adapted from Macworld US, or from MacWEEK © Mac Publishing LLC.

Macworld is a publication of IDG Communications, 99 Gray's Inn Road, London WC1X 8UT. Telephone: 020 7831 9252 Editorial fax: 020 7405 5308 Sales fax: 020 7405 0262 ISSN 1356-9503

Colour Origination: Lumis Colour  
 Printed by St Ives (Plymouth). Covers printed by Hubbards (Sheffield).  
 Macworld is printed on paper produced in sustainable forests.

Macworld editorial domestic Internet access courtesy of those nice people at Direct Connection (0800 072 0000, [www.dircon.net](http://www.dircon.net))

## MACWORLD SUBSCRIPTIONS: 01858 435 304

A subscription to Macworld includes 12 issues, 12 CDs and a FREE copy of Live Picture Photovista (see page 120).

UK	Europe	Rest of world
£44.66	£88.97	£113.98

**Subscribe by Direct Debit for just £39.66 (UK only)**

To subscribe, please use one of the following methods:

By post:

**Macworld Subscriptions, FREEPOST (WC4336), Leicester, LE87 4DE.**

By fax: **01858 434 958** By phone: **01858 435 304**

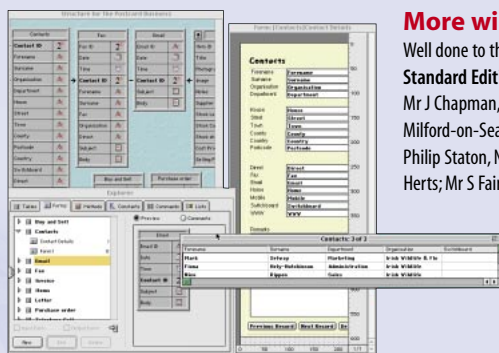
or visit <http://www.macworld.co.uk/subs/subs.cfm>

If you have a query about a current subscription, please call **01858 435 304**

## Contacts

who...		@
<b>Editor-in-Chief</b>	Simon Jary	<a href="mailto:editor@macworld.co.uk">editor@macworld.co.uk</a>
<b>Deputy Editor</b>	David Fanning	<a href="mailto:david_fanning@macworld.co.uk">david_fanning@macworld.co.uk</a>
<b>News Editor</b>	Jonathan Evans	<a href="mailto:news@macworld.co.uk">news@macworld.co.uk</a>
<b>Reporter</b>	Louise Banbury	<a href="mailto:louise_banbury@macworld.co.uk">louise_banbury@macworld.co.uk</a>
<b>Managing Editor</b>	Sean Ashcroft	<a href="mailto:sean_ashcroft@macworld.co.uk">sean_ashcroft@macworld.co.uk</a>
<b>Sub Editor</b>	Woody Phillips	<a href="mailto:woody@macworld.co.uk">woody@macworld.co.uk</a>
<b>Editorial Co-ordinator</b>	Seth Havens	<a href="mailto:seth@macworld.co.uk">seth@macworld.co.uk</a>
<b>Art Director</b>	Mandie Johnson	<a href="mailto:mandie_johnson@macworld.co.uk">mandie_johnson@macworld.co.uk</a>
<b>Art Editor</b>	James Walker	<a href="mailto:james_walker@macworld.co.uk">james_walker@macworld.co.uk</a>
<b>Associate Designer</b>	David Grant	<a href="mailto:david_grant@macworld.co.uk">david_grant@macworld.co.uk</a>
<b>Managing Editor/Online</b>	Gillian Robertson	<a href="mailto:gillian_robertson@macworld.co.uk">gillian_robertson@macworld.co.uk</a>
<b>CD Editor</b>	Vic Lennard	
<b>US Editor</b>	Andrew Gore	
<b>Contributing editors</b>	David Pogue, Deke McClelland, Lon Poole, Michael Prochak, Ian Winter, Simon Eccles, Joseph Schorr, Franklin Tessler, Bruce Fraser, Christopher Breen, David Biedny, Matthew Bath, Jake Sargent.	
<b>Group Advertising Manager</b>	Mustafa Mustafa	<a href="mailto:mustafa@macworld.co.uk">mustafa@macworld.co.uk</a>
<b>Senior Sales Executive</b>	Dean Payn	<a href="mailto:dean_payn@macworld.co.uk">dean_payn@macworld.co.uk</a>
<b>Display Sales Executive</b>	James Poulson	<a href="mailto:james_poulson@macworld.co.uk">james_poulson@macworld.co.uk</a>
<b>Classified Sales Executive</b>	Eamon McHugh	<a href="mailto:eamon_mchugh@macworld.co.uk">eamon_mchugh@macworld.co.uk</a>
<b>Production Manager</b>	Sharon Bird	<a href="mailto:sharonb@idglondon.co.uk">sharonb@idglondon.co.uk</a>
<b>Deputy Production Manager</b>	Richard Bailey	<a href="mailto:richardb@macworld.co.uk">richardb@macworld.co.uk</a>
<b>Production Assistant</b>	Sam French	<a href="mailto:samf@macworld.co.uk">samf@macworld.co.uk</a>
<b>Deputy Marketing Manager</b>	Jo Brown	<a href="mailto:jo_brown@macworld.co.uk">jo_brown@macworld.co.uk</a>
<b>Direct Marketing Executive</b>	Jim Birch	<a href="mailto:jim_birch@macworld.co.uk">jim_birch@macworld.co.uk</a>
<b>Marketing Co-ordinator</b>	Kelly Crowley	<a href="mailto:kelly_crowley@macworld.co.uk">kelly_crowley@macworld.co.uk</a>
<b>Publisher</b>	Guy Eaton	<a href="mailto:guy_eaton@macworld.co.uk">guy_eaton@macworld.co.uk</a>

New User  
 New Group  
 Open  
 Duplicate  
 Delete



## More winners, more great prizes

Well done to the ten winners of February's ACI 4th Dimension Standard Edition competition. They are: Ms PT Grant, Pudsey; Mr J Chapman, Willesden, London; Mr J D Brazell, Milford-on-Sea, Southampton; Ms A Sen, south-west London; Philip Staton, Newborough, Peterborough; Mr J Mason, Cuffley, Herts; Mr S Fairweather, St Neots, Cambs; Mr S Sullivan, Reigate, Surrey; Mr D MacGregor, South Shore, Blackpool; Mr D Butterworth, London;

## IDG World Leaders in IT Publishing

Macworld is a publication of International Data Group, the world's largest publisher of computer-related information, and the leading global provider of information services on information technology. International Data Group publishes over 275 computer publications in more than 75 countries. Ninety million people read one or more International Data Group publications each month. International Data Group's publications include: **Argentina's** Buyer's Guide, Computerworld, PC World; **Australia's** Computerworld, IT Casebook, Macworld, Network World, PC World, Publish, Reseller News, Webmaster, **Austria's** Computerwelt, Österreich, Networks, PC Tip; **Bangladesh's** PC World; **Belarus's** PC World; **Belgium's** Data News; **Brazil's** Anuário de Informática, Computerworld, Connections, Macworld, PC Player, PC World, Publish, Reseller News, Supermagazine; **Bulgaria's** Computerworld, Network World, PC & Macworld; **Canada's** CIO, Client/Server World, ComputerWorld, InfoWorld, NetworkWorld, WebWorld; **Chile's** Computerworld, PC World; **Columbia's** Computerworld, PC World; **Costa Rica's** PC World; **Czech and Slovak Republic's** Computerworld, Macworld, PC World; **Denmark's** Communications World, Computerworld, PC World, Techworld; **Dominican Republic's** PC World; **Ecuador's** PC World; **Egypt's** Computerworld, PC World; **El Salvador's** PC World; **Finland's** Mikro PC, Tietovirkko, Tietovirkko; **France's** Distributique, Hebdo, InfoPC, Le Monde Informatique, Macworld, Resaux & Telecoms, WebMaster; **Germany's** Computer Partner, Computerwoche/Extra/Focus, Global Online, Macwelt, PC Welt; **Greece's** Amiga Computing, GamePro, Multimedia World; **Guatemala's** PC World; **Honduras's** PC World; **Hong Kong's** Computerworld, PC World, Publish; **Hungary's** ABCD CD-ROM, Computerworld SZT, Internetto Online, PC World, PC-X Magazine; **Iceland's** Tölvaheimur; **Ireland's** PC World; **India's** Information Communications World, Computerworld, PC World, Publish; **Indonesia's** InfoComputer, PC World, Networking, PC World; **Japan's** DTP World, Macworld, Nikkei Personal Computing, OS/2 World, SunWorld, Windows NT World, Windows World; **Kenya's** PC World; **Korea's** Hi-Tech Information, Macworld, PC World; **Malaysia's** Computerworld, PC World, Publish; **Malta's** PC World; **Mexico's** Computerworld, Macworld, PC World; **Myanmar's** PC World; **The Netherlands's** Computer Total, LAN Internetworking, LAN World Buyers Guide, Macworld; **New Zealand's** Absolute Beginners Guide and Plain & Simple Series, Computer Buyer, Computer Industry Directory, Computerworld, MTB, Networked World, PC World, Publish; **Nicaragua's** PC World; **Norway's** Computerworld, CW Rapport, Datamagasin, Financial Rapport, Kursguide, Macworld, Multimedia World, PC World, PC World Express, PC World Network, PC World ProduktGuide; **Pakistan's** Computerworld, PC World; **Panama's** PC World; **People's Republic of China's** Computer Users, Computerworld, Computer and Communication, Electronic Design, Electronics Today/Weekly, Game Software, InfoWorld, PC World, Popular Computer Week, Software Weekly, Software World, Telecom World/Weekly; **Peru's** Computerworld, PC World Professional, PC World Soft; **Philippines's** Click!, Computerworld, PC World, Publish; **Poland's** Computerworld/Special Report, Cyber, Macworld, Network World, PC World Computer; **Portugal's** Cerebro PC World, Computerworld/Correio Informático, Dealer World, Mac/In/PC in Portugal, Multimedia World; **Puerto Rico's** PC World; **Romania's** Computerworld, PC World, Telecom; **Russia's** Computerworld, Mir, PC, Publish, Seti; **Singapore's** Computerworld, PC World, Publish; **Slovenia's** Computerworld, Network World, Software World; **Spain's** Comunicaciones World, Computerworld, Dealer World, Macworld, PC World; **Sweden's** CAP&Design, Computer, Corporate Computing, InternetWorld, it, branches, Macworld, MaxiData, MikroDatam, Nätker & Kommunikation, PC World, PCaktiv, Windows World; **Switzerland's** Computerworld, Macworld, PC World, Software World; **Taiwan's** Computerworld, Macworld, NEW VISION/Publish, PC World, Windows World; **Thailand's** Publish, Thai Computerworld; **Turkey's** Computerworld, Macworld, Network World, PC World; **Ukraine's** Computerworld, Multimedia World, PC World, Publish; **United Kingdom's** Digit, Macworld, PC Advisor, PC Home, J, United States' Cable in the Classroom, CIO Magazine, Computerworld, DOS World, Federal Computer Week, GamePro, InfoWorld, I-Way, Macworld, Netscape World, Network World, PC Games, PC World, Publish, Video Event, WebMaster; **Uruguay's** InfoWorld; **Venezuela's** Computerworld, PC World; **Vietnam's** PC World.



# Macworld

An exclusive 30-day trial of Macromedia Director 8 heads up an all-star cast. Internet Explorer 5 plus all the latest demos, shareware, updaters and games make this a not-to-be-missed cover CD. Vic Lennard leads the way...



**Install Me** Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

■ **Acrobat Reader+Search 4**

Install this version to be able to read many of the on-screen manuals.

■ **StuffIt Expander and DropStuff**

Versions 5.5, 5.1.2 and 4.5 are included.

■ **System tools**

The CD also carries the latest versions of InternetConfig (2.0.2) and necessary HyperCard items.

■ **QuickTime 4.1**

Some programs on the CD require QuickTime 4.1. This can be downloaded from [www.apple.com/quicktime/download](http://www.apple.com/quicktime/download).

## Macromedia Director 8 30-day trial – Exclusive!

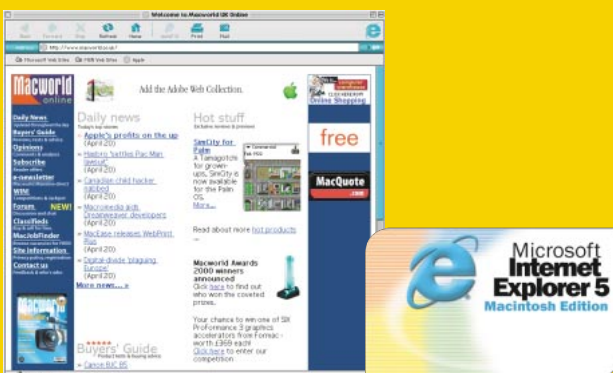


Director 8 continues Macromedia's focus on a Web content-creation tool. Maximize your productivity with a streamlined authoring environment and new design and layout tools. Edit multiple sprite properties with the context-sensitive Property Inspector. Gain precision control with Guides, Sprite Locking, Zoom, and Pasteboard Stage Views. Sort cast members by name, size, dates, type and comments with the Cast Manager. Launch and edit Linked Lingo Scripts in a text editor or source-code control system. Create extremely small, high-quality shapes with built-in Multiple Curve Vectors.

Attract and retain a loyal community of customers with unprecedented media control and connectivity. Dazzle viewers with high-performance, low-bandwidth Runtime Imaging effects and Transition Behaviors. Mix, pan, seek, pause and synchronize multiple sounds for immersive audio with Precision Sound Control. Use Fireworks 3 to edit and optimize Web graphics.

Reach the majority of Web users immediately with one-click publishing of Web-optimized Shockwave content. Deliver media-rich community applications using Shockwave Multiuser Server 2 with 1,000-user licence. Provide Loader Movies with custom progress bars, backgrounds or games while movies download. Click on the Publish Command to deliver scalable Shockwave content that fits any Web browser window. Freely distribute Shockwave Player with CD-ROMs, DVD-ROMs and on intranet sites.

## Microsoft Internet Explorer 5



Internet Explorer 5 – the fastest, most reliable version of Internet Explorer for the Macintosh ever. Numerous improvements, mostly transparent in use, help ensure that Web pages are rendered fast and fluidly, and exactly as intended by their designers. It's simpler than ever to use, with an improved Search Assistant feature that makes it easy to find information quickly on the Internet. And it delivers features such as the Internet Scrapbook and Auction Manager, which helps you to be more productive while completing projects and keeping track of on-line auctions.

Best of all, Internet Explorer 5 is built from the ground up for the Mac and is designed to meet its specific needs, including some features not available on any other browser on any platform. It sports a stylish new look, setting a new standard for browsers in the new millennium.

More CD contents on page 12





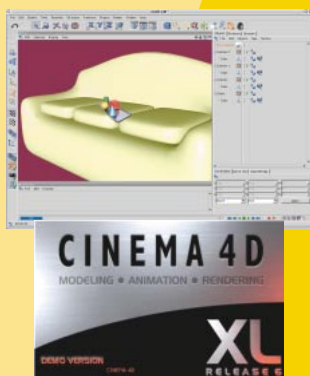
## Serious Software



### PiXELS:3D Studio 3.61 demo/trial

The latest version of PiXELS:3D Studio includes a much faster renderer with adaptive anti-aliasing, multiple undos, colour-coded keyframes, ShaderMaker for lighting, layer editing, copy-&-paste keyframe capability, and support for drag-&-drop.

A demo on start-up, log on to [www.pixels3d.com/download.html](http://www.pixels3d.com/download.html) and fill out the registration (including your machine ID). A serial number will be emailed to you for a 30-day fully-functional trial.



### Cinema 4D XL Release 6 demo

Cinema 4D XL version 6 offers excellent modelling tools, state-of-the-art animation features and a 256-bit SuperScalar motion-renderer. The image quality is beyond all doubt – and so is the speed at which it renders your work. You want interactive modelling? You've got it. Animation? You get lightning fast and easy timeline navigation. Special Effects? 2D and 3D sound rendering with doppler effects make your animations convincing. Demo is fully functional but has all save and export functions disabled.



### Allegro 2000 demo

Allegro 2000 has numerous improvements including support for Navigation Services and Appearance Manager, scrolling playback in page view, new smart shapes for glissando and bend tools, a new Maestro font, and much more. The demo is fully functional but is save-disabled and prints the words 'Allegro Demo' across the printout.

## Inside Macworld

Our Serious Software folder also hosts 18 items that tie in with Product News and reviews. These include:

MacHeadlines 1.9.1

NetShred 1.5.1

Now Up-to-Date/Contact 3.9

pdfToolbox 1.1

Pro-Five

Quite A Box Of Tricks

SoundJam MP Free 2.0

Startup Doubler 2.5.4

VSE Link Tester 2.0

## Don't miss...

### ■ Cool Extras!

MouseMove

Solve inactivity problems

SportsWatch

Online US sports results – now someone create a UK football version!

### ■ Explorer

Outlook Express 5.0.2

### ■ Mac ISPs

Internet access offers from AppleOnline, easyspace & FreeUK.

### ■ plus...

Many thanks to Simon Youngjohns for our CD icons.

League	Team vs. Team	Status	Result
WHL	San Jose vs. St. Louis	5/11/00	2 to 1
NHL	Pittsburgh vs. Washington	5/11/00	2 to 1
NHL	Edmonton vs. Dallas	5/11/00	2 to 0
NHL	Phoenix vs. Colorado	5/10/00	1 to 0
ECHL	Pacific vs. Jacksonville	5/11/00	2 to 1
ECFL	South Carolina vs. Louisiana	5/10/00	0 to 0
ISL	Stock vs. Nashville	5/11/00	5 to 0
ISL	http://www.gophersports.com/	5/11/00	5 to 0
ISL	Omaha vs. Philadelphia	5/11/00	6 to 4
ISL	http://www.gophersports.com/	5/11/00	10 to 5
ISL	New Orleans vs. Tampa	5/11/00	8 to 12
ISL	http://www.gophersports.com/	5/11/00	5 to 7
ISL	Toronto vs. Fresno	5/11/00	5 to 0
ISL	http://www.gophersports.com/	5/11/00	5 to 0
ISL	Calgary vs. San Jose	5/11/00	4 to 0
ISL	http://www.gophersports.com/	5/11/00	1 to 0
ISL	San Jose vs. Philadelphia	5/11/00	4 to 0
ISL	http://www.gophersports.com/	5/11/00	1 to 0
ISL	San Jose vs. Philadelphia	5/11/00	4 to 0
ISL	http://www.gophersports.com/	5/11/00	4 to 0

## Also on the CD

### COMMS & INTERNET

28 applications including:

Analog 4.1

HTML Scout 1.1

Outlook Email Archive 1.4

PageSucker Mac 2.2.2

### EDUCATION

Five programs including:

English-German Dictionary 2.0

English-Spanish Dictionary 1.4

### FORMATS

FontChecker v1.1.4

FontMoverLite

### GRAPHICS

13 items including:

Etchelon Macdoodle



Etchelon Tracer 3.6.5

OneApp Slide Show 5.3.2

tiff-sight 1.02

### ICONS

The Apple Startup Set 5.5

plus over 500 flag icons

and folders from

Carl Johan Rehinder

### MATHS & SCIENCE

Nine utilities including:

SlideRule 2.4

The Atomic Mac 3.7.3

### NETWORK

MacPopUp 1.2.1

### PALM PILOT

AvantGo Connect

### ISOUND & MUSIC

12 applications including:

Amadeus II v2.3

FretPet 2.1.4

QT JuiceBox v1.5

ZVocoder

### INFO

Six items including:



1984 on-line issue 23

ATPM 6.04

MyMac 60

plus 11 utilities for developers

### UTILITIES

12 categories comprising

80 useful tools for your

Mac including:

AddressBook 4.2.1

CropMaker 2.5

Drag'nBack 3.2

FinderMenuTuner v1.2.2

Morphile 1.6

PrintToPDF 1.5.1

Sleeper 3.2.2

TechTool 1.2.1

Tex-Edit Plus 3.0.1

textSOAP 2.6.1

TextSpresso 1.6

### UPDATERS

This month's dedicated

updaters folder includes over

100MB of patches to bring

many popular applications

bang up-to-date, including:

Canoma 1.0.1

Creator2 1.6.2

Dreamweaver 3.01

FileMaker Pro 5.0v3

Logic Platinum 4.2

MarkzTools III v7.98

MAXpowr 2.0.3

Norton AntiVirus 5 & 6 (04/00)

Painter 6.0.3

Poser 4.02

QuarkXPress 4.11 Int. English

Spell Catcher 8 v8.1.2

Stealth Serial Port 1.0.3

TechTool Pro 2.5.4

Virex (04/00)

## Other demos & trials include:

AGNetTools 2.5.1

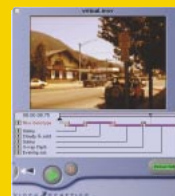
iEmpower 5.9.1

mPOWER 3.1

NodeSaVR 1.01

Suitcase 8.2 (with MenuFonts 8.2.2)

VideoGenetics 1.0.0



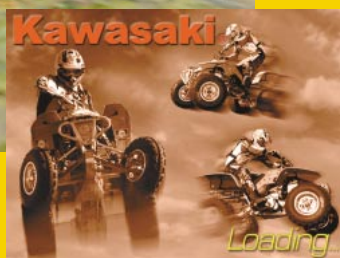
## Shareware

Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.





## Kawasaki ATV PowerSports



Kawasaki ATV is a racing game in the truest sense; it's not about racing and hitting pedestrians, or racing and evading the police. The game focuses on the high-speed action of all-terrain vehicle competition. There isn't anything wrong with combining racing with other kinds of action games, but Kawasaki ATV distinguishes itself by remaining pure to its motorsport roots.

Kawasaki ATV Powersports has five distinct modes of play intended to diversify the off-road gaming experience, two of which are on offer in the demo. The first is the traditional Rally mode. In this mode, you race against a number of computer-controlled opponents in order to achieve the best time on a given course. The Derby mode differs from the Rally by having the player compete with computer opponents to reach as many checkpoints as possible in a given time. The free-form nature of the Derby mode offers a faster and more manic racing experience compared to the more traditional Rally race.

So go on – get racing!

## Games World

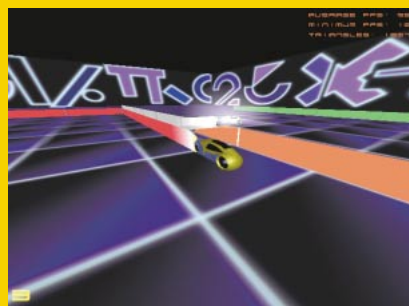
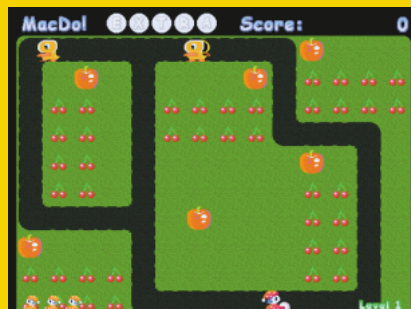
This month's Top 10 shareware games has some excellent arcaders. **GL Tron** is a slick Tron-like bike racer with three tough computer opponents, while **Boom 1.2** is the latest version of the classic game. Then there's **MacDo 1.2**, based on the famous 1982 console game and combining elements of Dig Dug as well. Finally, **Sword** will have you clinging on for dear life in this swashbuckler.

Card players will have fun with **Expert Blackjack** and **FunkyPoker**. Those more into classic games will enjoy **Fuffy 1.1.2**, a Yahtzee play-alike, and the latest version of **Vanessa Chess**. And we haven't forgotten the kids with **Hang2000** and **NetBoxes**!



*Boom*

*MacDo!*



*GL Tron*

*Vanessa Chess*



### FAULTY COVER CD-ROM?

If your cover disc is broken and you want a replacement CD, please contact Kelly Crowley, on 020 7831 9252, or at [kelly\\_crowley@macworld.co.uk](mailto:kelly_crowley@macworld.co.uk).

If your cover CD doesn't seem to work as it should please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email Woody Phillips at [woody@macworld.co.uk](mailto:woody@macworld.co.uk).

### Macworld CD catalogue

Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2000 – over 167,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.0.2) is also included – don't forget to register if you find our library useful.



# Microsoft Office 2001 gets Mac

## New email and PIM components join Word, Excel,

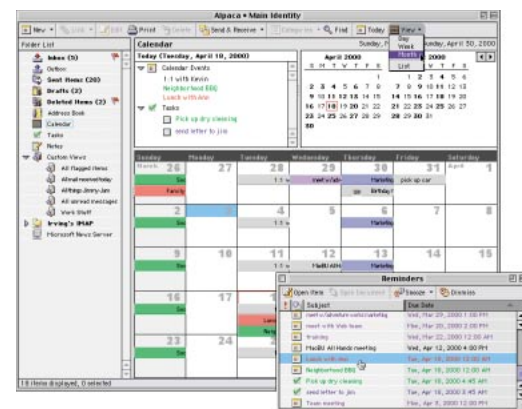
Despite demands from the US Justice Department that Microsoft be split into two separate companies (see page 24), the software giant is on target for an autumn 2000 launch date for its updated Mac business applications.

Two new applications will be added to Office 2001 Macintosh Edition when the upgrade ships later this year: a personal information manager (PIM) and full-featured email client. These new applications will be tightly integrated with each other and the three current Office components: Word, Excel and PowerPoint. The PIM includes an address book and calendar accessible from the other Office applications, and users will be able to compose emails using Word functions such as automatically numbered lists. The goal, Microsoft said, is to centralize email and personal information management within the productivity suite.

"The new email/PIM components are designed to be the hub for Office," said Irving Kwong, product manager for Microsoft's Macintosh Business Unit.

Available only in the Mac version, the new features are largely designed to appeal to consumers and SoHo users. Those users now account for 60 to 70 per cent of the Mac Office customer base, compared with several years ago, when the lion's share of sales went to corporations.

"Customer demand motivated us to develop the new application, while feedback shaped the design of the



product to answer specific needs of Mac customers," said Kevin Browne, general manager of the Mac unit. "We want to provide an integrated application that gives customers the tools to take control of their personal information."

"We're focusing on things important to personal productivity," Kwong added. In contrast, Office 2000 for Windows, which appeals more to corporate customers, has concentrated on such areas as workflow management, he said. "You'll see a demarcation in our products, but we will always have (cross-platform file) compatibility."

### Microsoft to be broken up

On page 24, we ask the question: With his company broken into two pieces, for how long will Microsoft's Bill Gates hug the Mac to his woolly jumper?

## Adobe: 'Television will be revolutionized'

The same phenomenon that happened to print is happening to video – it's just happening 10 years later," said Adobe chairman and CEO John Warnock, during his speech at the annual National Association of Broadcasters (NAB) trade show (see pages 19 and 20).

Just as the Mac brought desktop publishing to the masses, the Internet and affordable video-editing tools will revolutionize the broadcast industry, inspiring an explosion of multimedia content on the Web, he predicted.

Home users today can edit digital video and add special effects using computers that cost little more than £1,000, the Adobe chief said – perhaps alluding to Apple's successful iMac DV. For around £5,000, small production companies can create broadcast-quality video that can be distributed inexpensively online, he added.

"If you combine the proliferation of talent with the reduced cost of content for broadcasting, it means the content will explode," Warnock said. "There will be thousands of content providers out there, and they will all be competing for mind share."

Much of the first wave of content will be appalling, just as many of the leaflets and flyers created with Adobe's early publishing solutions were, warned Warnock.

Some Web entrepreneurs will survive, creating rich multimedia content that will compete for attention alongside the best of what today's broadcasting industry has to offer, he added.

To take advantage of the new medium with their own programming, broadcasters need to recognize fundamental differences between producing

for television and producing for the Web, Warnock cautioned. The Internet is an interactive medium where consumers watch what they want to, when they want to. They like to give feedback about what they are watching, and they like content that caters to their community.

"The real winners will be the ones who engage their customers. If your model is 'I will broadcast and you will listen,' you'll always be around... but in a shrinking environment."

"It's going to be a great new world, and it's not going to be for people who are unwilling to change," Warnock said..

Supporting his vision, an Adobe engineer showed how content can be manipulated using Adobe's After Effects visual effects program and a number of third-party, add-on applications available on the market today. One add-on from Atomic Power, called Evolution, lets a producer take a video clip and "blow it up", shattering the clip into pieces that appear to fly off the screen.

"The productivity barriers are going away," Warnock concluded.

"It's not going to be how much you can pay for your system, it's going to be how good an artist you are." James Niccolai MW



# targets for next version of business giant

## personal

## and PowerPoint

### Calendar (left) and address book (right)

The built-in calendar is similar to the one in Palm Desktop, and for good reason: the calendar and address book can both be synchronized to Palm devices. As with the Palm software, all events, tasks, reminders and address book items can be coded by categories, such as Business, Family and Friends. The calendar interface features three panes: two small ones showing today's schedule and upcoming months, and a main window that lets you switch among monthly, weekly and daily views.

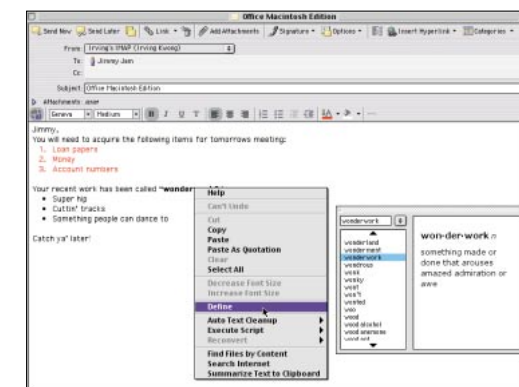
### Outlook Express on steroids

Kwong described the new email client, code-named Alpaca, as "Outlook Express on steroids", referring to the free email program that Microsoft ships with Internet Explorer. For example, you can group email, contacts, events, tasks and notes into custom views that appear in the folder list.

The email module has the same keyboard shortcuts as Word. In the upcoming Office suite, the Mac's Contextual Menu can be used to look up words and get definitions from an Encarta World English Dictionary database on your hard drive – Microsoft will eventually make Encarta an online-only service. The ability to access Encarta info is a Mac-only feature – as is the ability to attach a "Flag for Follow-up" to an email message. These flags can be combined with reminders that are available in any Office app.

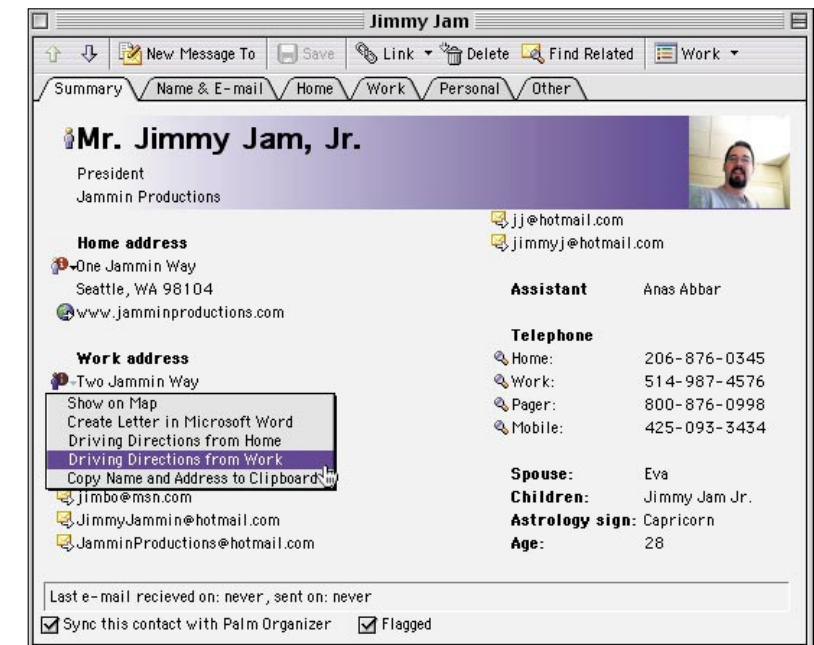
Outlook Express 5.x added a function that flags important items for easy identification. Alpaca enhances this by attaching automated reminders to the flags. Reminders become part of the built-in calendar, which Kwong described as the "timekeeper for Office."

The client makes it easier to enter email addresses by automatically tracking the last 150 used; the software can then autocomplete the address as it is entered. Kwong said the feature is useful if you forget to store an address in the address book, or if you're writing to people you don't intend to contact in the future.



### Word 2001 in your email

Microsoft Word-like editing tools have been integrated into the new application. Misspelled words are highlighted and common errors are simultaneously fixed with the AutoCorrect feature. Users can define words and view spelling suggestions with the click of a button.



Alpaca's email composition features borrow from Word, including a Word-like toolbar. You can also autocorrect text and set up automatically numbered or bulleted lists.

### 2001 in 2000

This was not a formal announcement of Office 2001; Microsoft has not yet revealed other new features to expect in Word, Excel or PowerPoint. Microsoft plans to ship the new suite in the second half of the year; one possibility is a launch at September's Apple expo Europe.

The upgrade will be compatible with Mac OS 8.x and 9.x, and will run in Mac OS X's Classic environment, the portion of Apple's next-generation operating system designed to handle current Mac applications. Later, the company plans to release a native Mac OS X version that will take advantage of the new OS's features.

Microsoft has already committed to delivering Mac OS X versions of Internet Explorer and Outlook Express when Apple ships the new operating system later this year. "The goal is to have them on the Mac OS X CD," Kwong said.

### Mac's love/hate Microsoft relationship

Microsoft, of course, has an uneasy relationship with Macintosh users. Its Macintosh Business Unit is one of the largest Mac software developers, but Microsoft also produces the hated Windows operating system, and chairman Bill Gates frequently draws the scorn of Apple loyalists, most recently for comments disparaging the iMac for its allegedly slow boot-up time.

Macintosh users may loathe Microsoft, but they are buying its products. Kwong said the company has sold more than 2.5 million Office 98 packages. The recently released Internet Explorer 5, he said, saw a million downloads in its first two weeks; by contrast, Internet Explorer 4.5 took 15 weeks to reach that volume.

Microsoft recognizes that the Mac market is attracting more small businesses and consumers. Office 2001 is the company's first step to address these markets.

Simon Jary, Stephen Beale, Dennis Sellars and Jim Dalrymple MW



## Nautilus interface for Gnome 2.0 Linux

For the past few years, Linux proponents have trumpeted the merits of their grassroots, Unix-like operating system. It's free, it's fast, and because it enjoys broad support among programmers, bugs are easy to fix. But Linux's command-line interface may have put off many power users, keeping the operating system from gaining wider acceptance.

That could soon change. Former Apple employees Andy Hertzfeld, Michael Boich, Bud Tribble, and Susan Kare have teamed up at a new company called Eazel. Their goal? To build a new graphical shell, code-named Nautilus, for Gnome 2.0 (a Linux desktop environment and application framework), and to offer Internet services that will help users install, configure, and update the operating system.

### Apple seeds

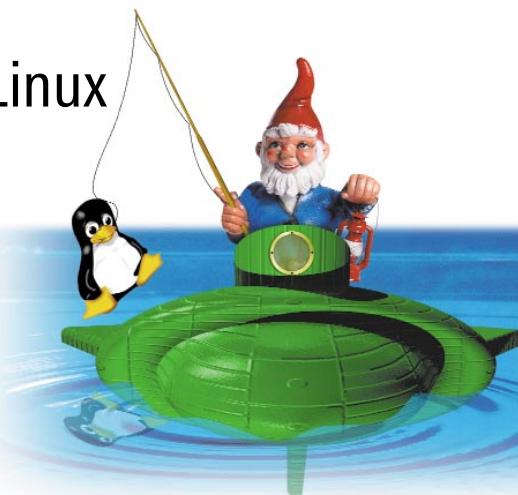
Eazel's core management team has experience building an interface simple enough for anyone to use. Boich, the company's president and CEO, founded Apple's software-evangelism group for the Macintosh.

Hertzfeld designed and implemented much of the original Mac system software, while Tribble managed the original Mac software team. Kare worked on the first icon designs for the Mac OS.

The question now: Can these Apple veterans do for Linux what they did for the Mac?

"The graphical shell is the glove through which the user touches the rest of the system," says Hertzfeld, who has kept the title "software wizard" from his days as a Mac programmer. "It really is a key point in terms of usability. But the toughest part is the system's care, feeding, and maintenance. The real opportunity here is to use the Internet to provide the knowledge base that can keep your computer running smoothly without any technological expertise on your part."

Programmers and developers make up the bulk of Linux users. About 89 million copies of OSs were sold in



1999, research firm IDC says. Linux made up 4 per cent (by comparison, the Mac OS accounted for 5 per cent).

### Source of strength

Eazel believes that the open-source nature of Linux is the OS's strength. With open-source software, developers are free to distribute and change code. Therefore, the software-development process becomes a collaboration, and no single company really owns the code.

A big focus at Eazel is developing custom interfaces for various file types. For example, the file manager might recognize a directory as being made up of music files and display it in a particular way. Users could then view the files in a mode that resembled an MP3 player, complete with song titles and running lengths.

Gnome 2.0 – including Nautilus – will be free for people to change and distribute. Eazel plans to turn a profit by providing Internet-based services to Linux users. "Our overall goal is to make Linux and open-source software in general easier to use," Hertzfeld says.

For now, Gnome is aimed at current Linux users. In time, Eazel hopes it will appeal to novice computer users. A beta release of Nautilus is scheduled for this summer. All the components should be ready by autumn.

Frith Breitner

## UltraDev for Mac Web apps

Macromedia is replacing its Windows-only Drumbeat Web development software with a new Mac-compatible program, code-named UltraDev. The product, based on the Dreamweaver core architecture, will be released in June 2000.

UltraDev is a solution for designing, managing and deploying database-driven Web applications, using technologies like ASP, JSP and CFML. This differs from Dreamweaver, which is designed to create HTML Web sites, and not dynamic Web applications.

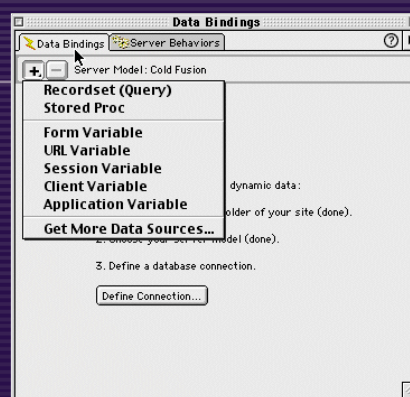
Developers can connect Web pages to any ODBC (Open Database Connectivity), JDBC (Java Database Connectivity) or ADO (ActiveX Data Objects). These include Oracle, Sybase, Informix, Microsoft SQL Server and Microsoft

Access. An advantage of UltraDev, according to Macromedia, is its inclusion of visual- and source-editing tools, allowing developers to have total control over the code. Live data can be viewed and tested in the workspace. Server-side logic, navigation and interactivity can be added.

While the application does not include any e-commerce specific features, Macromedia says that extensions will be available for download through the company's network of developers.

Dreamweaver sites will work in UltraDev, as the product reads, recognizes and parses HTML. This is also true for files built in other apps, such as Cold Fusion Studio and FrontPage.

UltraDev supports Mac OS 8.6 and later. Pricing had not been finalized at press time. Louise Banbury



### Defining Data sources

To start adding dynamic content to your pages using UltraDev you must define at least one data source to provide the dynamic content.





# Apple grabs ab-fab NAB

The broadcast market isn't sitting still," says Phil Schiller, Apple's vice-president of worldwide sales. But neither is Apple. Broadcasters won't wait for the Internet to offer better video streaming – they'll develop their own solutions. So Apple is moving fast, with a new version of QuickTime, ten more channels on QTV, an upgrade for video-editor Final Cut Pro, and FireWire updates all announced at the start of April.

Apple announced its QuickTime updates at the Internet World show (see page 22). But Apple's real DV/Web eye-opener came at the National Association of Broadcasters (NAB) a few days later.

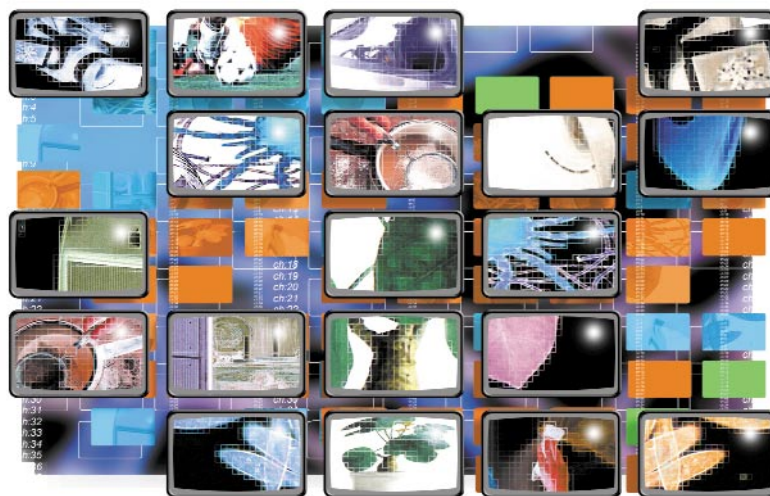
NAB is the world's biggest broadcasting trade show, covering all aspects of television, radio, video, film, entertainment, interactive media, satellite/telecomms and the Internet. The central theme this year was the convergence between TV, PCs and the Internet.

## Transmission transition

Apple is way ahead of the Internet-enabled pack with its reputation for cutting-edge technologies and innovative design. The result – Apple was everywhere at NAB, with key companies, such as Media 100, Discreet, Sonic Solutions, ICE and Boris FX, announcing their support for the Mac. The company broke the consumer market last year. This year it's set to enter the professional video arena in a big way. Apple has shown outstanding foresight with its moves into the broadcast market – iMovie, Final Cut Pro, built-in DV players and its QuickTime and FireWire technologies. Furthering this, Apple and its partners made a series of announcements at NAB (see page 20) stressing the importance of the sector to the company, as broadcasting enters a new and challenging phase.

Edward Fritts, chairman and CEO of NAB said: "New technology is going to happen whether we are ready or not. The Internet is the most powerful and unpredictable technology of all."

The central issue is Web streaming. Apple has focused attention on the distribution of broadcast content over the Web with its QuickTime TV network, though RealNetworks and others have streaming solutions that pre-date Apple's



TV SEE 15 – OK 19. ILLUSTRATION BY DAVID ANGEL

entry into this booming and optimistic market. The technology is catching on, but for most users the reality is pixellation, dropped connections and large phone bills – a situation Apple's partner Akamai is striving to improve (see page 34). Cable, ADSL (see below) and other broadband technologies are also emerging. These high-bandwidth information distribution systems will engender a new age for broadcasting, NAB delegates agreed.

The future of broadcasting is a place where your Mac could become the brains behind a cable TV box that brings interactive digital entertainment to your home. At NAB, SCM Microsystems announced the successful test of the first PC receiver that works with the scrambled signals of different cable TV companies under a new OpenCable protocol. This makes cable boxes redundant – with a cable-ready computer you simply slide in an authorized card for the channel or region you are in, and get the TV you need. These computer-based TV boxes will, theoretically, play CDs, DVDs, games, write letters, receive videos, even access software-on-demand.

Consumer versions of OpenCable products are unlikely to appear before 2001. Apple's actions show the company's awareness of the issues around future broadcasting. Its Internet-based business model shows it understands that the impact of the convergence between old and new media is the digital gold rush driving the dot coms, and the development of digital mind share.

David Essex, James Niccolai, Jonny Evans



More NAB, page 20

## ADSL: BT offers high-speed Internet all the time for £39 a month

BT beat most other ISPs to the punch with the announcement of its BTopenworld service, which will be the first publicly available ADSL service, arriving in July. To connect, a single user will need a USB-equipped Mac; multiple users will have an ethernet connection to a splitter box. The splitter will filter telephone calls and Internet data through the same box.

ADSL stands for Asymmetric Digital Subscriber Line – a high-speed Internet connection. The basic 512Kbps service is ten times faster than the fastest analogue modems and four times faster than

dual-channel ISDN. More importantly the service is always live so dialling up will be a thing of the past. Late this year, the services will expand to offer a 2Mbps connection to business users.

The cost of installation will be a whopping £150, but pre-ordered BTopenworld services (before June 30) include free installation. Basic 512Kbps (256Kbps upstream) services cost £39.99 per month (inc VAT) for home users. Single-user business customers will be charged £39.99 (exc. VAT) for enhanced customer service. Multiple-user (four PCs, ten email addresses) business accounts

start at £99.99 a month. To begin with, the service will be available only to people and businesses in range of the 400 ADSL-equipped exchanges. These are in the following areas: Birmingham, Belfast, Cambridge, Cardiff, Coventry, Edinburgh, Glasgow, Leeds, London, Manchester, Milton Keynes and Newcastle.

Other ISPs have promised to offer ADSL, but details are still patchy about costs and availability. BT is the first to let people sign up in advance of the July launch at [www.btopenworld.com](http://www.btopenworld.com). David Fanning



# NAB: Final Cut Pro 1.2.5, Apple DVD



More NAB, page 19



## Stylish screen

SGI's 17.3-inch (1,600-x-1,024 pixel), wide-format 1600SW flat-panel display is bundled with Formac's Mac-compatible ProFormance 3 graphic-accelerator card for £2,265. The card speeds the performance of graphics applications such as QuarkXPress and Adobe Photoshop, as well as OpenGL 3D graphics. SGI claims that the 1600SW display is the only LCD monitor available with adjustable backlight colour temperature capability, a feature previously unique to traditional CRT monitors. Backlight colour temperature control enables users to optimize their displays to output "the truest image quality" for Web graphics, print or video production, according to SGI.

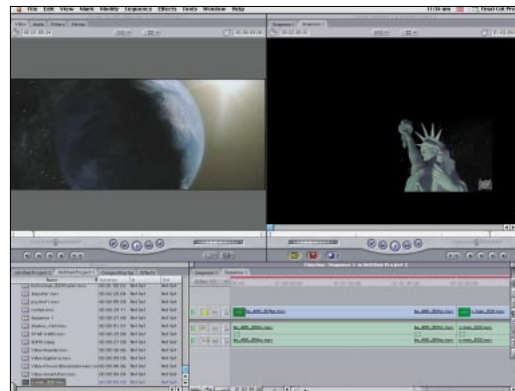
Apple announced its upgraded Final Cut Pro 1.2.5 at the National Association of Broadcasters show (NAB), offering support for the 16:9 wide-screen format, reference movies and YUV, which lets digital video be processed without being converted to RGB. Phil Schiller, Apple's vice-president of marketing, described Final Cut as "an industrial-strength digital video dream".

Apple's starting point at NAB was the joint press conference with Pinnacle and Matrox, where the three companies announced jointly developed video solutions. Pinnacle released the TARGA Cine, an uncompressed standard-definition and uncompressed high-definition video solution available exclusively for the Mac.

Pinnacle also rolled out Commotion 3.0, an all-in-one solution that combines paint with compositing and effects capabilities (see page 39). Matrox announced RTMac, the first PCI video card for real-time digital video editing on the Mac, and a shot in the arm for Final Cut film makers. The card offers S-video analogue video capture and export, support for a second monitor and top-quality, real-time playback on computers and PAL/NTSC monitors. In a sign of the future, Apple announced a deal with US Electrical retailer, the Wiz, to offer complete desktop-video solutions based on iMac DV in 41 Wiz stores in the US.

## Adobe joins in

Adobe too took a slice of mind-share at NAB, hosting its first NAB Solutions Network Pavilion, featuring over 20 hardware and software partners supporting Adobe's Dynamic Media products. The company also announced its purchase of Carrara from MetaCreations (see page 26). In the pavilion, Alias/Wavefront debuted the Maya Paint Effects plug-in for After Effects, letting designers create and animate complex organic material in 2D and 3D environments. The Foundry showed its latest product, Tinderbox – a set of 20 image processing plug-ins (gaussian blur, sky simulator) for After Effects users – available this summer. It also announced its bundling of Atomic Power's Evolution After Effects filters (see page 16).



In other news, Avid announced Mac updates for several products, including Xpress V 4, Media Composer V 10 and PostConform V 2. Lariat Software announced that its MediaReports 2.0 measurement and analysis product now supports QuickTime streaming-server software.

Media 100 maintained its push with several new partnerships and acquisitions, and displayed Media 100 Version 6, the first integrated digital-video and streaming-media solution for Power Mac G4s. Sonic Solutions promised a Mac version of DVDIt! – its DVD authoring solution – by autumn; and SGI announced that its 1600 SW flat-panel display is now being bundled with Formac's ProFormance 3 graphics card, making it Mac compatible.

## Apple buys Astarte goods

Finally, from out of the blue, Apple announced its purchase of all the DVD authoring products and associated underlying technology from Astarte, whose German-based engineering team will join Apple as part of the deal. These products include DVDDirector, DVDelight, DVDEExport, Mpack and Apack. Astarte originally developed Toast, the best-selling CD-R authoring package.

Dennis Sellers & Jonny Evans

## USB 2.0 officially faster than FireWire

USB 2.0, boasting 40 times the bandwidth of the existing connection spec, is expected to appear in peripherals by year end. The successor to USB 1.1 – the current PC connectivity standard used in Apple's Macs and many PCs – leaves even super-fast FireWire in its tracks.

Plans for USB 2.0 were announced last year by the USB 2.0 Promoter Group, consisting of Compaq, Hewlett-Packard, Intel, Lucent, Microsoft, NEC, and Philips. USB 2.0 ports and peripherals could be widely available next year.

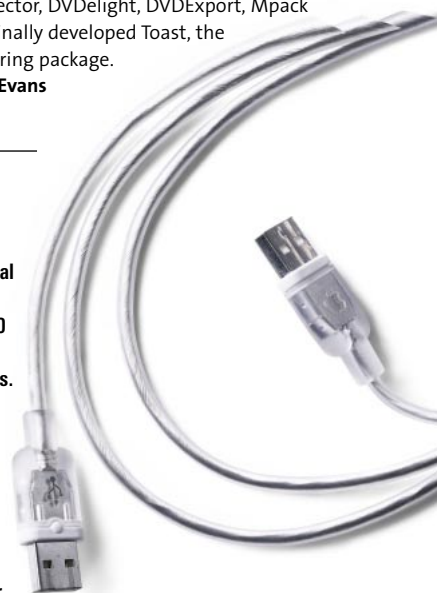
USB 2.0 increases the speed of connections between peripherals and PCs to up to 480 megabits per second (Mbps), compared to the 12Mbps capacity of USB 1.1. This makes it especially useful for such high-bandwidth devices and applications as scanners, storage, and

digital-still and -video cameras. The new spec will be backward compatible so that existing USB devices can run on the new ports – although at their existing, slower speeds. However, USB 2.0 will let you simultaneously run multiple USB 1.x peripherals off the same port. And you won't suffer the speed loss you'd experience with a USB 1.x port once the combined bandwidth of the devices exceeds the 12Mbps maximum of that port.

Although USB 2.0 will be even faster than the current IEEE 1394 standard (also called FireWire by Apple and iLink by Sony), which tops out at about 400Mbps, Intel officials say they view the two specs as complementary rather than competing. That's because IEEE 1394 is a peer-to-peer connection that will appear on a wide variety of consumer electronics

(such as digital camcorders), while USB 2.0 is specific to PC peripherals.

FireWire, meanwhile, is expected to reach 800Mbps and even 1,600Mbps later this year or early next year. For more details on USB 2.0, go to [www.usb.org](http://www.usb.org). Yarden Arar





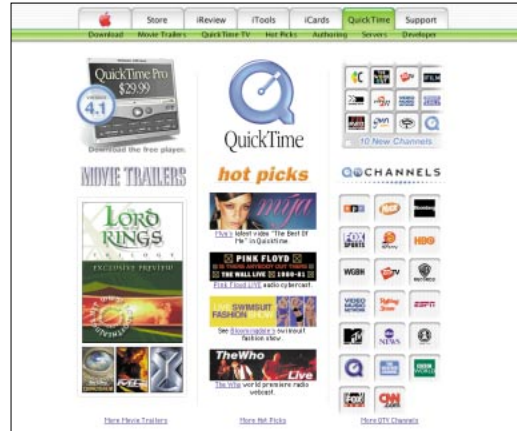


# Apple blitzes Net with new releases

## Mac OS, QuickTime, DVD, Darwin, tech support



Netscape nearly ready... AOL showed off the Preview release of version 6 of its Netscape Web browser at Internet World 2000.



### 4.1, 4.1.1, 4.1.2 – how to get the very latest version of QuickTime

Keeping up-to-date isn't easy – sometimes it isn't even desirable. Apple has been extremely active with QuickTime recently, and now seems a good time to check where you stand. Users have several options for updating QuickTime. You can download the QuickTime Web installer, which then performs the actual QuickTime 4.1.2 download and installation. Or you can download a standalone QuickTime 4.1.2 installer that adds the update in one step. Get to both at [www.apple.com/uk/quicktime](http://www.apple.com/uk/quicktime). You can also install the update through the QuickTime Updater inside your QuickTime folder.

As at the National Association of Broadcasters (NAB – see page 18), Apple had a major presence at this spring's Internet World 2000, which it co-sponsored with Intel. Though Steve Jobs, Apple's CEO, cancelled his eagerly anticipated keynote speech (see News, *Macworld*, May 2000), Apple's announcements at the show, which ran April 3-7, spoke for themselves.

**Mac OS update** Internet World held the official announcement of the Mac OS 9.0.4 system update, this included additional FireWire and USB support, enhanced networking and power management and improved audio, video and graphics functionality. See our review, page 47.

**QuickTime 4.1.1** Apple also presented QuickTime 4.1.1, which offers better DVD playback and Windows 2000 compatibility. Spokesperson Rhona Stratton said: "QuickTime is popular for streaming video because of its quality and scalability. You can get up to 600 kilobits per second, whereas just a few months ago there was slower streaming and a choppy picture." Apple claims there have been 32 million downloads of QuickTime 4.

But, just a couple of weeks later, Apple announced a further update to QuickTime, bringing its rich-media technology to version 4.1.2. The post-show update fixes several bugs in QuickTime 4.1.1. One bug incorrectly parsed "mailto:" URLs or URLs containing certain characters, such as a question mark. Another bug mishandled overrides in Embed tags. A third bug caused some USB YUV cameras to display a bad preview image.

**QTV channels** Apple also added ten more channels to its QuickTime TV network. New content providers include Beggars Banquet Records, Caroline's Comedy Club, Cipher



New Media, the UK-based Global Music Network, HyperTunez, IFILM, Oddcast, Pitch TV, Sony Music and ZDTV. The QuickTime TV network now streams over 40 channels of news, music and video. Go to [www.apple.com/quicktime/qtv/](http://www.apple.com/quicktime/qtv/) for full details.

**DVD Player** DVD Player 2.2 was added to Apple's OS mix. This software-based DVD player is for users of Mac OS 9.0.4 only, and requires QuickTime 4.1



and a previously installed version of the Apple DVD Player. It is compatible only with iMac DV (slot loading), Power Mac G4 (AGP graphics), and FireWire-ready PowerBooks. At the moment, there's no International English version.

**Auto tech support** In another refinement of its Internet business model, Apple has appointed Kanisa, an e-service solutions provider to enhance its online customer support with its ESP software package. Apple has invested \$15 million in the company. Kanisa ESP stores profiles about each Mac customer, including what products they own, their level of expertise and the number of times they've requested technical support. Based on this, the software presents a series of multiple-choice questions designed to identify the problem. The customer then gets the answers, or is directed to Apple's Web site to find more support. Kanisa hopes to roll out its service in July.

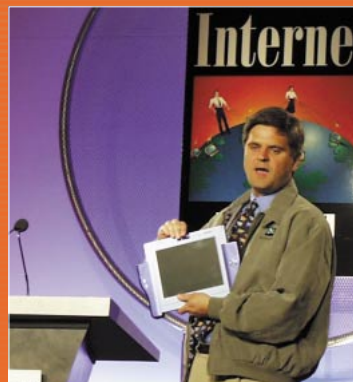
**Darwin 1.0** Apple's biggest-hitting announcement was the release of Darwin 1.0, the open-source based operating system that lives at the core of Mac OS X. An updated Darwin Streaming Server was also released.

### Show hits the big time

73 per cent larger than last year, Internet World featured over 800 exhibitors, 50,000 Internet-focused professionals came from 66 countries, and 1,500 hungry journalists followed the pack. Megan Forrester, group show director, said: "This is the largest show we've ever produced, we have 50 per cent more attendees".

Jeff Young, marketing manager at Akamai said: "This is the second Internet World show at which we've exhibited. We experienced great traffic. The show is one of the four most important shows we exhibit at."

Apple's regular partners also showed out, including Macromedia, which presented its Web application environment, UltraDev, for developing dynamic Web applications. Adobe introduced GoLive 5.0, its professional Web-site creation, production and management program and Illustrator 9.0, its Web-ready vector-graphics solution (see Product News, May 2000). MW



## AOL: "We're on the brink of second Net revolution"

In the opening speech at Internet World, America Online's chairman and CEO Steve Case spoke of being on the brink of a second Internet revolution that will make the first one "look quaint by comparison". He also seized the chance to introduce the Netscape 6 preview.

The new Internet will be characterized by the convergence of media, entertainment and information, as well as a melding of household appliances like televisions, personal computers and telephones, which will be linked together and share content and functionality.

"This is the beginning of a world we all dreamed about creating 10 years ago," Case said. "We've talked about this for years, but it's finally starting to happen."

In a non-Mac move, the AOL chief showed prototypes of new Internet appliances, these will use the Linux operating system and a lightweight version of Netscape's Gecko browser. They include a lightweight "countertop" appliance for the kitchen, a desktop appliance designed to serve as a low-cost alternative to the PC and a wireless Web pad, pictured right.

Holding the Web pad aloft, Case said it is light enough to be installed anywhere in the home and has a pivoting screen

that would allow it to be hung from the underside of a shelf in the kitchen. The first appliances will be available at the end of this year, he said.

Case warned that the industry must include all citizens in the Internet, and not just the affluent. About three-quarters of homes in the US with incomes of \$75,000 and above are connected to the Web, Case said, compared with only 10 per cent of the poorest households.

"I don't think there is a more urgent task than dealing with difficult societal issues, including the digital divide," Case said. "It's no use just talking about it, we have to do it," he added. James Niccolai

## QuickTime matures to v4.1.2



After a few quick public revisions, Apple's QuickTime software has stabilized into a remarkable authoring tool. Apple released QuickTime 4.1.1 early in April, and a few weeks later posted QuickTime 4.1.2.

Just for fun, I pulled out the original beta release of QuickTime, dated 1991. Remarkably, every movie from that era played, and played well. The files did not have to be updated or converted. Even the HyperCard jukebox stacks played well. It's important to appreciate how rare this compatibility is. QuickTime 4.1.x supports more than 200 digital file types, including MP3, which is licensed directly from its original creator, and the digital video (DV) format that underlies iMovie and FinalCut Pro.



### AppleScript support

Apple further professionalized QuickTime by adding AppleScript functionality. Apple's QuickTime team must be extremely busy, but you can't tell it by looking at the well developed AppleScript material available as a free download. The QuickTime 4.1 scripts are well organized and mature. They are not snippets of code or samples, they're genuinely useful, even to the casual QuickTime content creator (such as iMovie users). I particularly like the ability to add rolling credits or annotate a movie with copyright and source, simply by dragging the movie onto an AppleScript droplet.

Other very professional droplets let you prepare a movie for streaming by automatically adding hinting. Because the Internet is not real time, pieces of files (packets) are flying around in all directions. Hinting assists in delivering and reassembling content so that it appears in real time. QuickTime Pro's settings for this can be confusing, but with the AppleScript, you can put a movie on the droplet and you get a new hinted file.

### Streaming server

Along with the QuickTime updates, Apple has also released QuickTime Streaming Server 2.0, which works in conjunction with Mac OS X Server 1.0 or 1.2. I installed Mac OS X server on an original iMac (an unsupported installation) and it's working very well. This method is best for serving movies for local (within a 300-mile range) distribution.

The Internet is a series of nodes, and files are passed from node to node. It's all fairly efficient, but it wasn't designed for media delivery. That's why Apple teamed with Akamai, which spreads its servers around the Internet (see page 32), with duplicates of the movies stored throughout the system. This means you receive the movie that's stored closest to you. But if you serve the movie yourself, you lose the advantage of the distributed network.

QuickTime 4.1.x supports embeddable applications. One inspiring example allows a movie to speak a number. Put this movie into any application that understands QuickTime (such as a browser) and the application will speak numbers that you enter into a text box.

### Advertisers SMIL

Another QuickTime 4.1.x feature, support for Synchronized Multimedia Integration Language (SMIL), is aimed at online advertisers. Like embeddable applications, SMIL is dynamic. It is an industry-standard way to insert ads or string play-lists together. In the network broadcast environment, ads are placed programmatically during the broadcast day. In many cases different ads are inserted for different regions of the world.

I found SMIL difficult to use, but the SMIL AppleScript droplet made it easier. Creative content providers will find many dynamic uses for SMIL including dynamic expert interactive training movies.

### Microsoft gets Real

In the world of ruthless competition, the best doesn't always win. The recent alliance between Microsoft and RealNetworks may seem to stack the deck further against QuickTime. But, remember, QuickTime Pro is the premier AUTHORING environment. Most of the content delivered in RealPlayer is either repackaged broadcast material or QuickTime-authored original content converted to Real Player in a program such as Media Cleaner Pro. Like FireWire (aka IEEE 1394), engineers don't always need constant acknowledgment for their accomplishments.

Scott Myers is an engineer and technical curator of audio-kinetic sculpture. His loft in Manhattan was host to the first New York Mac User's Group meetings.





# 'Split Microsoft in two' demands US govt



Read all about it! 

[www.macworld.co.uk/microsoft](http://www.macworld.co.uk/microsoft)  
Visit this special site for all the latest details on the proposed break up of Microsoft and its effects on Apple and the Mac OS.

The US Department of Justice (DOJ) has asked District Judge Thomas Penfield Jackson to cleave Microsoft in half, arguing that the software giant's Windows operating system business should be split from the rest of its product divisions, including its Office suite of software applications and its Internet Explorer Web browser. This follows Jackson finding Microsoft guilty of violating the Sherman Anti-Trust Act, leveraging its dominance in the PC industry to illegally monopolize the Web browser market.

Under the proposal, the new operating system company, which would include all versions of Windows software, would be prohibited from recombining with the applications company for 10 years.

Microsoft officials immediately rejected the plan as unworkable, unnecessary and unlikely to be upheld by higher courts. Chairman Bill Gates said the proposals would have a "chilling effect" on high-tech innovation.

Under the government's plan, the two new companies would be barred from selling or distributing each other's products. But the OS company could create and market its own software apps, and the applications company could sell its own OS. In fact, DOJ antitrust chief Joel Klein envisioned the applications company as a potentially major threat to Windows in its own right.

Others believe that Microsoft could be the biggest benefactor of a break-up. "This split will just create two huge behemoths that each will have the monopolist position in their respective fields," said Bob Schneider, head of the intellectual property dept at Chicago law firm Chapman and Cutler.

How does the finding affect Microsoft's commitment to the platform? Irving Kwong, product manager for the Mac Business Unit claims: "The trial has no effect on our commitment to provide innovative Mac products. We will continue to work diligently to produce great Mac products, as exemplified by award-winning products like Office 98, Internet Explorer and Outlook Express."

Reassuringly, Microsoft intends releasing Office 2001 for the Mac in the second half of 2000 (see page 16).

## Microsoft bullied Apple

During the trial, both Avie Tevanian, Apple's chief of software engineering, and Timothy Shaff, senior director of the Interactive Media Group, testified for the prosecution. Tevanian charged that in 1997, Microsoft threatened to cancel development of Microsoft Office for the Mac if Apple failed to adopt Internet Explorer as the default browser for the Mac. A few months later, Apple complied — but only as part of a far-ranging five-year agreement with Microsoft that included a commitment by Microsoft to offer updated versions of MS Office. Microsoft also tried, but failed, to force Apple to suspend QuickTime development in favour of a Microsoft alternative.

Judge Jackson commented: "By extracting from Apple terms that significantly diminished the usage of Navigator on the Mac OS, Microsoft helped to ensure that developers would not view Navigator as truly cross-platform middle-ware. Microsoft's willingness to make the sacrifices involved in cancelling Mac Office, and the concessions relating to browsing software that it demanded from Apple, can only be explained by Microsoft's desire to protect itself from the threat posed by Navigator."

If Microsoft is broken up into separate business units, the possibility exists that the newly formed units would not abide by the five-year agreement with Apple.

The government said Microsoft should be granted one year to draw up the blueprint for its own divestiture. Gates would have to decide which company to lead and which to start competing with.

Longer versions of this story can be found at [www.macworld.co.uk/microsoft](http://www.macworld.co.uk/microsoft).

Keith Perine, Aaron Pressman, Nancy Weil, Stephen Beale, and Jim Dalrymple

## iMovie free for all... Americans

iMovie, Apple's consumer home-video-editing software that ships with the iMac DV, is now available as a free download for PowerBooks and Power Mac G4s. Before you rush to your browsers, there's a geographical catch.

The download is available for US users only at the time of going to press, and Apple UK sources were unable to say if and when an International English version would materialize.

According to Steve Jobs, iMovie's popularity persuaded Apple to offer the software to other Mac owners. "In seven months, iMovie has become the most popular video-editing software in the world," he said.

"Due to popular demand, we're bringing this amazing Apple software to a wider range of Macintosh users, at no charge."

Introduced in October 1999, iMovie comes pre-installed on all iMac DV and iMac DV Special Edition systems. Until now, buying



an iMac was the only way for budding movie-makers to get their hands on the free software.

The software lets users import video from a digital-video camcorder directly into the FireWire-equipped iMac, Power Mac G4 or new PowerBook, re-arrange clips and add special effects like cross-dissolves and scrolling titles,



as well as sound effects. Movies can then be transferred back to a camcorder for viewing on a standard TV or VHS tape, or saved as a QuickTime file for emailing, or streaming from a Web site.

iMovie requires Apple's high-speed FireWire connection, also found in many digital video cameras. Sony calls FireWire i.Link.

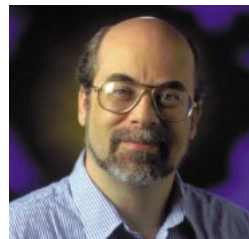
US users can either download the software from Apple's Web site, or order a CD for \$19.99. The 19.2MB download version is fully functional, but doesn't include the 160MB tutorial. **MW**  
Louise Banbury





# Kai-put! MetaCreations splits up

Corel, Adobe, egi.sys snap up Painter, Bryce, Poser, KPT, Carrara



**M**etaCreations has finally dumped all of its graphics software business and is concentrating solely on its Metastream 3D Web streaming subsidiary. Corel has bought Bryce, Kai's Power Tools (KPT), Painter and Art Dabbler, and Adobe has snapped up Canoma and Carrara – a recent 3D application that incorporates MetaCreations' Infini-D and Ray Dream Studio technology. Poser returns to its original development team.

At the same time as the big sell-out, MetaCreations' CEO Mark Zimmer (pictured left) resigned and was replaced by Bob Rice, CEO and president of MetaCreations' subsidiary Metastream.

Zimmer was the primary author of MetaCreations' Painter software, developed at his Fractal Design company – which merged with Kai Krause's MetaTools in 1997 to form MetaCreations. He is now founding a new company called fractal.com, together with Tom Hedges and John Derry, who were also involved in the creation of Painter. This company will now act as consultants to Corel with the transition of Painter, and the development of Painter 7.

## Corel promises better Mac focus

So far, the Mac versions of MetaCreations' graphics products appear to be safe. Corel has not shown much commitment to the Mac platform – WordPerfect for the Mac, for example, has been languishing without an upgrade for years. However, Corel said that this acquisition

would strengthen its presence in the Mac graphics market, and that the development of Mac versions would continue.

"Corel is definitely committed to the Mac," says Kylee MacKay, Corel's media relations manager for UK and Ireland. "We are beginning immediate development on these products for the Mac market. Sixty per cent of MetaCreations business is on the Mac."

Curious Labs, part of egi.sys and the new owner of Poser, also had reassuring words for Mac customers. "Curious Labs is very committed to the Mac," said Larry Weinberg, CEO of Curious Labs and the original creator of Poser. "Poser began on the Mac, and will continue to support the Mac community."

MetaCreations is now free to focus solely on the operations of its Metastream subsidiary. New CEO Bob Rice explained: "The objectives of Metastream and MetaCreations are now one and the same: to promote the Metastream technology as the industry standard in providing marketing visualizations for e-commerce."

Metastream 3, the next generation of the 3D streaming media format, was announced at the end of March.

■ Meanwhile, Corel – which reported a \$19 million loss for its first fiscal quarter and predicted similar losses for the next two quarters – has warned investors that it may go broke within three months if a pending merger with Inprise/Borland doesn't go through.

**Louise Banbury**

## Poser in shape

**What is it?** – 3D figure design and animation tool, originally developed on the Mac by Fractal Designs – the company that merged with MetaTools in 1997 to form MetaCreations.

**Last updated** – The last major upgrade was version 4, announced in May 1999. A free patch has been released since the sell-off, bringing it to version 4.02.

The news seems positive for this bendy-person graphics application. Poser has gone back home with its sale to Curious Labs. CEO Larry Weinberg was its original creator, president Steve Cooper was the Poser product manager at MetaCreations, and R&D chief Seath Ahrens was the co-lead engineer.

Weinberg told *Macworld*: "As far as I can tell, the team that we have been able to bring together at Curious Labs is the largest coherent group that is staying with one of these products."

"We believe that we have only touched the surface of the use of 3D, especially 3D humans and characters, in daily computing, the Internet, and the creative arts fields. We already have more ideas than we can deliver upon."

"We know Poser very well, since most of Curious Labs is made up of people who were directly or indirectly involved with the past successes of Poser at MetaCreations."

Poser was a big hit with designers, allowing them to create movies, images and posed 3D figures from a diverse collection of fully articulated, 3D human and animal models, as well as a library of settings and swappable clothing.

An exact date has not been reached for a release of the next major upgrade, but the company is already working on it, said Weinberg. The latest free update fixes problems in the US version of Poser 4, and German, French and Japanese versions are being finalized.

**Louise Banbury**



## Painter potted

**What is it?** – A graphics app featuring "Natural Media" brush technology to simulate traditional art tools and techniques. Originally developed by Fractal Designs.

**Last updated** – Painter 6 was announced at Siggraph in August 1999. Days after acquiring the software, Corel released an update, version 6.3, featuring bug fixes and enhanced support for Photoshop plug-ins.

Painter was one of MetaCreations' most successful applications. Corel also took on related products Painter Classic, Painter 3D and Art Dabbler. Painter complements Corel's flagship CorelDraw, and will be a strong companion for Photo-Paint, according to the company.

Corel has contracted Painter creators Mark Zimmer, Tom Hedges and John Derry to help in the transition of Painter 6 and development of Painter 7. The company also plans to hire more MetaCreations engineers to help with the software's development.

Corel plans to roll out Corel-branded versions of its new products towards the end of the year.

"We intend to continue Painter as a stand-alone product," said a spokeswoman, "Painter offers leading-edge painting technology for Photoshop users."



## Creator fears for Bryce future

**What is it?** – Genre-creating rendering and animation tool that generates 3D landscapes and abstract 3D sculptures.

**Last updated** – September 1999 upgrade to version 4.0.1 fixed bugs, and adds new a volumetric shading mode that allows you to make realistic-looking clouds and gaseous forms. But, for some reason, the update was US only.

Taking on another company's products is always a challenge, but Bryce represents a particular headache for Corel – something that Ian LeGrow, vice president of Corel's Graphics Software Group, acknowledges. "Bryce is a very complex application, and the 3D piece is going to be a challenge for us to fully get up to speed," he says.

The challenge may be insurmountable, says Ken Musgrave, who wrote the doctoral dissertation that led to Bryce's creation and developed key Bryce components, such as the texture engine and Skylab. Asked if he thought Corel would be able to move the software forward, he responded: "Frankly, no, because the engineers are more valuable than the code itself."

Musgrave currently heads FractalWorlds, which is developing a program called MojoWorld that will compete with Bryce.

John Feld, former senior product manager for Bryce, says that upgrading the software would have been a challenge even with the original programming team.

"(We) spent many months researching and charting the future development, and came to the realization that even for the engineers who knew the code intimately, there was at least a year of coding needed to bring in features that would take Bryce to a next level."



While acknowledging that upgrading Bryce will be difficult, LeGrow says it won't be impossible. "We're very cognizant of the piece of meat we've bitten off here, and we're doing everything we can to continue developing the product."

The current plan is to release Bryce 4.5 – a paid update with new user-requested features – by the end of the year. LeGrow says Corel will release free updates "if there are any maintenance issues".

**Stephen Beale**



## 3D mystery

**Canoma** **What is it?** – Creates 3D models from 2D photographs to output to the Web. Aimed at e-commerce applications. MetaCreations acquired the technology when it bought the company Canoma in January 1999.

**Last updated** – No major upgrade since its announcement at Internet World last April. Version 1.01 fixes bugs and provides minor enhancements.

Adobe was the first company to jump into the software sale, when it announced it was buying Canoma. Adobe got the title in exchange for licensing MetaCreations' Metastream technology.

**Carrara** **What is it?** – A 3D application first announced at Seybold in August 1999. Carrara is the "synthesis" of Ray Dream Studio and Infini-D, and is a 3D modelling, animation and rendering solution for print, video and the Web. **Last updated** – Carrara has not yet had a major upgrade, but MetaCreations has released a patch with bug fixes, bringing it to version 1.01.

The terms of Adobe's acquisition of Carrara were not made public. Adobe hasn't yet commented on its reasons for buying Carrara, or its plans for the software. One insider told *Macworld* that he believes that it is a "part of the sustained campaign to re-cast Adobe's image as one of a cutting-edge Web company rather than the slightly staid image unfairly associated with print publishing".

## KPT in effect

**What is it?** – A series of image-effect plug-ins for Adobe Photoshop, created by the legendary former MetaCreations chief design officer Kai Krause.

**Last updated** – Version 6.0 was announced in October 1999.

Kai's Power Tools (KPT) shouldn't pose too much of a problem for Corel, according to Ian LeGrow, vice president of Corel's Graphics Software Group. The KPT plug-ins have clean, up-to-date code that will make them relatively easy to upgrade.

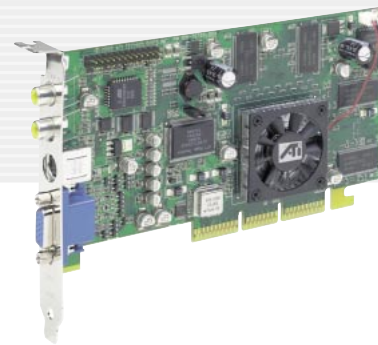
Corel has big plans for the plug-in business, says LeGrow: "There's a lot of technology in Photo-Paint that we considered leveraging as plug-ins before".

These include artistic filters that create Impressionist or Pointillist painting effects. In addition to offering filters in packages, Corel will sell them individually on the Net. The company is also considering an ASP model in which users will be able to run plug-ins from Corel's Web site. Some features



in CorelDraw could find their way into KPT Vector Effects, a set of Illustrator plug-ins. The goal, LeGrow says, is to bring some of the capabilities in Photo-Paint and CorelDraw to users of other leading graphics packages.

MetaCreations once pulled out of the plug-in business to concentrate on its "serious" software – but was forced to release new versions of KPT by the pleading of filter-crazy designers and heartbroken Photoshop devotees.



# Rev up for video va-va-voom



**Super-model statistics**  
ATI's Charisma Engine incorporates a 30-million triangle per second geometry engine, as well as radical new 3D character animation techniques.

A race between rival graphics processor makers ATI and 3dfx has begun, pushing the boundaries of 3D graphics acceleration in the Mac. First off the blocks was 3dfx, which revealed its strategy to enter the Mac market by announcing two new Voodoo boards designed specifically for Macs. Soon after that, ATI, the company that makes the RAGE 128 boards built-in to today's Macs, released the specs of its next-generation chipset called Radeon 256 (pictured above).

Both companies say their products will offer full-screen anti-aliasing, cinematic effects like motion blur and depth of field, and other ground-breaking features.

This is the first time that 3dfx Interactive has officially supported the Macintosh market. Until recently, the company left it up to third-party video-card integrators to provide Mac owners with a workable solution.

This summer, 3dfx will roll out two PCI video cards derived from its Voodoo4 and Voodoo5 product lines, based around 3dfx's vaunted VSA-100 chipset. The Voodoo cards will support graphics acceleration for QuickDraw and QuickTime, as well as supporting 32-bit texture rendering, which improves the quality of 3D graphics.

A notable absence from the product strategy, however, is an AGP solution for the Mac. AGP, or Accelerated Graphics Port, is a new, faster video-card interface that was introduced to the Mac platform with the Power Mac G4. At present, Apple ships ATI's RAGE 128 Pro-based video card in that slot. 3dfx's director of Mac business development Bryan Speece explained: "With all AGP-equipped Macs already shipping with a video card, AGP isn't a great retail aftermarket proposition for 3dfx at this point. We're looking at all future configurations, however."

Apple shareholders suggested at a recent meeting that Apple should consider a build-to-order option with other graphics processors built-in.

Speece was cagey about 3dfx's relationship with Apple, and would not let slip whether a build-to-order option for 3dfx cards featured in the Mac's future. "We've got very good support from Apple's engineering staff," said Speece. "As far as our actual business relationship goes, that's something I can't comment on."

## Radeon's ultra colour wash

Meanwhile, ATI touted the Radeon 256's features at the Windows hardware engineers conference. It's twice as fast as the RAGE 128 family, and features the new Charisma Engine and Pixel Tapestry Architecture (see News, May 2000). Product manager David Nolasco said: "We've kept Mac OS support in the core technology". This means support for Mac byte order and colour space is built into the card, as well as support for Apple's DVD playback.

ATI was unable to comment on whether Apple would build the new chip into forthcoming Macs. The chips are AGP-based, according to retail card product manager Deanna Perkins. "The chip is designed for AGP, but we're experimenting with various things to see if we can bring it to PCI," she said.

The company is optimistic that there will be good news for Mac owners soon. "We're not announcing any boards at this point, but we plan to have information on the design of the cards in July," said Perkins.

**Louise Banbury and Peter Cohen**

Read Chris Breen's *Game Room* (page 95) for more on how video cards will soup up your old Mac.

## Macs could pack more chips at Apple's WWDC

The rumoured return of the multiprocessing Macintosh (see News, May 2000) could see its first fruit at Apple's Worldwide Developers Conference in May. Multiprocessing computers use more than one processor to complete arduous tasks quicker, such as 3D modelling/animation.

On Apple's Web site for the hardware track session, it says attendees will "learn what you can do to benefit from the advantages of Velocity Engine and multiprocessing". The session promises to show "how threading improves your application's performance on both OS 9 and OS X, on uniprocessors today and multiprocessors in the future". What's more, the hardware track promises "demonstrations of how fast applications can go using Velocity Engine, MP, and both together".

Apple's CEO Steve Jobs also let slip at April's shareholders' meeting that developers can expect some big news about WebObjects, the company's high-end Web production software. "We are 100 per cent committed to WebObjects, and we've got some plans to turbocharge it," he said.

Other possibilities include an announcement from C-Cube that it will make special MPEG

compression chips for creating DVD video, to be used in high-end G4 Power Macs.

WWDC 2000, which is aimed at developers rather than the general public, runs from May 15-19 at the San Jose Convention Center in San Jose, California.

The event is no stranger to big announcements – at last year's conference the company took the wraps off a new PowerBook line, and announced OpenGL for Macintosh.

Predictably, Apple declined to comment on any coming product announcements at this year's conference, but did say that registrations had been "phenomenal".

## AppleMasters add spice

Five celebrity AppleMasters are scheduled to add pizzazz to the proceedings. Herbie Hancock, James Woods, Gregory Hines and Bryan Adams will give presentations on the first day of the conference about how Apple technology has influenced them.

Also on the menu are tracks on Mac OS X, OpenGL, QuickTime, AppleScript and Macintosh hardware, as well as the Developer Central



# WWDC



exhibitor pavilion, where participants include Aladdin Systems, LaCie, Keyspan, MacSpeech, Tripp Lite, Silicon Graphics, FileMaker and 4D.

Jobs is set to give the opening keynote, the 5th Apple Design Award winners will be announced, and, for the second time, the Entrepreneurial Bootcamp makes an appearance – featuring sessions on how to build a company.

For full coverage of news from the conference, check out Macworld Online Daily News at [www.macworld.co.uk](http://www.macworld.co.uk).

Louise Banbury and MacCentral staff





# Net devices possible from 'maverick' Apple

**M**obile phones that let you send and receive email; Web terminals in your kitchen that can download recipes; cars equipped with on-board computers able to locate restaurants, print out directions, and even help you phone ahead for reservations – devices such as these are either already on the market or at least in the planning stage.

They're part of a growing universe of Internet appliances – basic consumer devices that offer easy access to the Internet. And, if one Wall Street analyst proves correct, Apple could soon join that universe.

As we reported in *Macworld's* April News pages ("Apple plans Mac jr"), in a report issued after a February visit to Apple, Merrill Lynch computer analyst Steven Fortuna wrote that he expected Apple to unveil an Internet-appliance strategy this summer, possibly at New York's Macworld Expo in July.

Such an announcement would "add some meat" to the Internet strategy Apple announced earlier this year, wrote Fortuna in an earlier report.

Apple's reaction? "That would be speculation," spokeswoman Rhona Hamilton says, "and we wouldn't have a comment on it."

## Behind closed doors

Analysts say Apple may be keeping mum about an Internet-appliance strategy in public. But that doesn't mean the company isn't mulling over such a plan behind closed doors.

"They have no intention of getting out of the PC business. They're very firm about that," says Tim Bjarin, president of consulting firm Creative Strategies. But, he adds, "if you're Apple, you'd be crazy not to look at"

developing the Mac OS for another company's Internet device or even producing an appliance.

## Net growth

Consider the potential market. The number of Internet appliances should top 37 million in 2002, reports Jupiter Communications, an Internet-commerce research firm. That's a jump from 1.2 million in 1997.

Compaq, IBM, Hewlett-Packard, and Microsoft have either expressed interest in the Net-appliance market or started rolling out stripped-down devices. But don't expect other companies to force Apple's hand. Devices such as Compaq's iPaq target the corporate market – not an area that Apple tries to woo, says analyst Lou Mazzucchelli.

"Apple's always been a maverick," Creative Strategies' Bjarin says. "I don't expect them to march to someone else's drumbeat."

There are other reasons Apple might not pursue an Internet-appliance strategy. The company already has a successful consumer product – the iMac – that promises easy access to the Internet. An Apple-branded Internet device may harm iMac sales. And after putting its house in order with a series of successful product launches, Apple may want to avoid a Newton-like disaster, Bjarin says.

Still, Apple may decide that Internet appliances make perfect sense. While Internet devices won't ever replace PCs, their sales should skyrocket in the next few years. By 2005, Bjarin estimates, Internet appliances could outsell PCs by as much as a 4-to-1 ratio.

"Apple is the top brand in the world," Bjarin adds. "There's no reason to believe they can't make hay with an Internet device."

**Philip Michaels**

JEFF NEUMANN



# Sell out! Apple's portable success breeds Mac dealer discontent

**U**K PowerBook stocks are low as resellers await new deliveries from Apple, with one reseller claiming to have been waiting for PowerBook deliveries for over two weeks. Those without stock say they were expecting new deliveries of PowerBooks after Easter, but could not guarantee this. At press time, online purchasers visiting Dabs Direct in mid-April found themselves unable to order 300MHz iBooks as supplies were still overdue.

David Millar, Apple's PR and corporate affairs manager, said: "We apologize. We are working very hard to get products to customers as fast as we can. Availability is an issue across the whole of the notebook market."

Richard Jones, marketing manager of Jigsaw, said that supply generally did not match demand: "Delivery from Apple tends to be all or nothing, we get a build up of back-orders, which means we are unable to get the products out to customers on time."

## Apple unready

Millar explained that "sales are exceeding expectations". He pointed out Apple's recently announced quarterly results (see Business News, page 32), which showed a 26 per cent increase in demand for Apple products year on year, with portables accounting for 21 per cent of the sales mix, according to Apple's own second quarter summary data.

Maneesh Patel, marketing manager at Mygate, says he has had consistent supply problems for months: "We get deliveries from Apple in dribs and drabs, but it's never enough".

Patel feels this situation won't be resolved until they move the production base, he said: "Europe is getting a bum deal from Apple. All the PowerBooks are going

to Japan, which is easy to supply as it's not far from Taiwan, where PowerBooks are made."

## Investing for future

Millar said that talk of US and Japanese markets getting preferential treatment for supply was "pure supposition". He pointed out that Apple's recent \$100 million investment in Samsung showed the company's pro-active approach to the worldwide TFT screen shortage. At the time of the investment (September 1999), Steve Jobs said: "With our new iBook and fast-selling PowerBooks, Apple will need more flat displays than ever in the future".

A call to Apple's own sales line gives a rosier picture of the situation. The operator said that if a customer wanted a PowerBook, one would be shipped over from Cork within three working days.

Patel's response was tense: "I want to know why Apple can give customers a PowerBook direct from Cork when I have to wait for supplies from Taiwan."

Millar replied: "It depends on how the resellers manage their stock, and on the velocity of supply to the channels – if anything slows that down, then the channel has to sort it out."

In the second quarter of 1999, PowerBooks were Apple's only portable offering, and, according to the company's own data, Apple shifted 74,430 of them. This quarter, Apple has shifted a massive 219,030 of its portable solutions, 114,730 of which were iBooks. **MW**

## Anamur Rehman contributed to this report

*This situation may well continue through May, so check with dealers for up-to-the-minute supply information.*



## No Apple, but independent plans September UK Mac show

**I**ndependent start-up firm International Exhibitions and Conferences, a subsidiary company to Macintosh ISP Apple Online, intends to organize a show for the UK Mac community this September. IEC has September 29 and 30 provisionally booked at Islington's Business Design Centre – the venue for 1992's Macworld Expo.

Apple, which either pulled out of or cancelled UK shows in 1998, 1999 and 2000, is concentrating its efforts on one big European show, Apple expo Europe, to be held in Paris, September 13-17.

## With or without you

UK user anger was heavy at the most recent Apple pull-out, especially as Apple CEO Steve Jobs had been due to attend the Wembley event. For more details on Apple's botched plans for a UK show, see [www.macworld.co.uk/expoexit](http://www.macworld.co.uk/expoexit).

Farhaad Alaadin, executive director of IEC, spoke of the disappointment that he and Apple Online felt at the cancellation of the official Mac Expo, and the company's decision to do its own UK Macintosh show.

"Depending on how that first show goes, we will decide whether to run another show next year. If it works, we are considering running two shows – one in the north, another in the south of England," he said.

The organizers intend to charge £10 per show ticket, pre-registration is open now via [www.theexpo2000.co.uk](http://www.theexpo2000.co.uk). The first 5,000 pre-registrants will be given free admission to the show.

Exhibitors haven't yet been confirmed, as the organizers have to clarify the legal situation for running a show of this type with Apple. Apple UK's PR manager David Millar was unable to comment



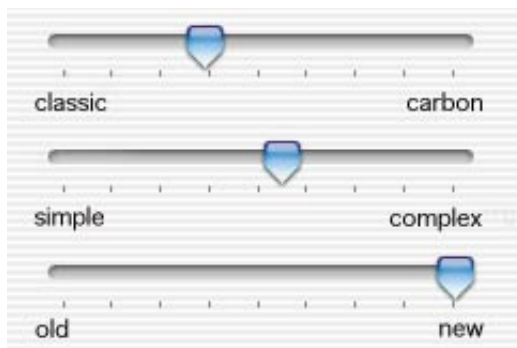
as we went to press. While broadly welcoming the event, some key players expressed concern that the organizers, with no track record in this field, may experience difficulty making the event sustainable.

Alaadin however remains resolute: "We are determined to do it, and we will do it", he said. Jonny Evans





# Think difficult: utilities suffer Aqua blues



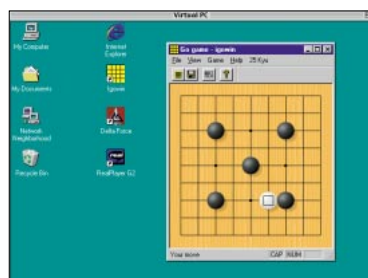
Apple's forthcoming Mac OS X may change the way Macintosh users interact with their favourite computer, but it will have an even bigger impact on the companies that develop Mac OS utilities. Most utilities are designed to address gaps in the host operating system, and many of those weaknesses will be removed when Apple releases its new OS. Other vendors have found that changes in Mac OS X won't allow their utilities to work as before. And some say that the recent Developer Release 3 (DR 3) – coming three months before the new OS release – either arrived too late or lacks tools they need to port their applications to the OS.

One of the big changes in Mac OS X is it eliminates system extensions, at least when you're outside the Classic environment (also known as Blue Box), which is designed to run current Mac applications. That would seem to be a death knell for Casady & Greene's Conflict Catcher, a popular utility for identifying extension conflicts.

However, Donald Bierdneau, C&G's executive vice president for product development, said the changes have not dampened the company's enthusiasm for Mac OS X. "Right now, Conflict Catcher runs fine in the Blue Box (Classic environment). Although some of its functions are displaced in Carbon, we're confident we'll find something for it to do in OS X."

Thursby Systems, developer of the Dave cross-platform utility, faces a different challenge. "Our development has really had to wait for the release of DR 3 because that's where kernel development tools have first appeared," said engineering chief Paul Nelson. "Dave is working in Classic now, and will be finalized and ship in January of 2001."

Mike Loftus, vice president of product marketing at Connectix, said the company's engineers are still awaiting development tools from Apple. "It's a little early yet to predict what product we'll be able to ship with the OS X launch," he said. "The tools we need are very sophisticated, like debuggers, and we look forward to their arrival."



Connectix products include Virtual PC (pictured here), a DOS emulator, and Virtual Game Station, which allows Macs to run many Sony PlayStation games.

## Double trouble

Developers of Windows-emulation software face an extra challenge because they need to support two new operating systems: Mac OS X and Windows 2000. "It's a double whammy because you have to deal with Mac OS X on the bottom and Windows 2000 on the top," said John Kirsten, president of FWB Software, which purchased Insignia Solutions' SoftWindows and SoftPC last year. "It's a daunting task."

Perhaps not as daunting as the challenge facing CE Software, developer of the QuickKeys macro-creation program (pictured below). Mark Toland, CE's director of engineering, said that Mac OS X disallows patches, a method of intercepting and overriding system calls that the company uses in its utility. Toland said that Apple's move makes sense "as patches tend to undermine system stability." CE has proposed an alternative using better-behaved hooks, but even if Apple allows their use, "we don't expect to see that support in the 1.0 release of OS X," he said.

Even without patches or hooks, Toland maintains that QuickKeys "works virtually flawlessly in the Blue Box. We are going to have it ship for OS X, although it may not be QuickKeys as we know it today."

Despite the challenges, many utility vendors said they look forward to Mac OS X. David Loomstein, a product manager at Symantec, said he is confident that Norton's virus checker and disk tools will make the transition.

His advice to users and developers: "Set aside your fears of the unknown. Apple knows what it needs to do and it's doing it. Though difficult, these times will produce new opportunities for utility developers."

David Leishman



## Windows 2000 is more Mac friendly

Macintosh users most likely took little notice of Microsoft's splashy launch of Windows 2000. After all, the new operating system caters to the high-end computer-network market – not exactly the home turf of Apple's Mac OS.

Still, Mac heads on networks run by Windows NT Server 4.0 may have reason to welcome Windows 2000. Microsoft promises that Windows 2000 Server will provide easier-to-manage file sharing and remote access for Macintosh users. Cross-platform networking specialists call the upgrade's Mac support a big improvement over what NT offers.

Corporate networks commonly include Macs, and Windows NT is often the server of choice. "There are probably just as many Macs connected to NT servers as there are connected to AppleShare," notes John Rizzo, editor of the cross-platform integration Web site MacWindows.com.

### Windows dressing?

NT Server 4.0 had problems supporting the Mac. Early tests of Windows 2000 Server indicate that it corrects those flaws. Windows 2000 supports Apple File Protocol over TCP/IP, whereas Windows NT allows Mac clients to share files only through AppleTalk. The addition of TCP/IP support via Windows 2000's MacFile feature makes it easier for Mac users to share files, Microsoft says. There's also the potential for faster data-transfer speeds with TCP/IP.

Another new feature, MacPrint, lets Macintosh users send documents to printers connected to a computer running Windows 2000 Server. Windows 2000 users can also send documents to printers on an AppleTalk network.

With Windows NT, Mac users couldn't dial in to the server and access the network remotely. Windows 2000 Server fixes that by letting us dial in using the Mac OS's Remote Access control panel. The upgrade also fixes a bug in Windows NT that incorrectly reported the size and remaining space of volumes mounted on a Mac. Windows 2000 Server also offers consistent security for Mac and PC users across a network – a benefit for network managers. Philip Michaels



# Pro sales make Apple \$233m profit



Apple's second-quarter profits are \$160 million this year, up 72 per cent from Q2 1999. A further \$73 million was raised by the sale of third-party shares. Increased profits were driven by strong demand for Apple's professional level Power Mac G4's and PowerBooks, and by improved operating efficiencies, said Fred Anderson, Apple's chief financial officer.

Earnings per share – which ended April 1, 2000 – were up 47 per cent from a year ago, exceeding First Call/Thomson Financial's predictions.

Revenue was \$1.94 billion, up 27 per cent from a year ago, while gross margins were 28.2 per cent, up from 26.3 per cent this time last year.

"We're very pleased to report our second consecutive quarter of strong unit, revenue and earnings growth," said Anderson.

The profit figure of \$160 million excludes a \$73 million after-tax gain from the sale of 1.5 million shares of ARM Holdings. Including this, Apple reported a profit of \$233 million, compared with \$135 million in 1999.

iMacs continue to attract new users to the platform, Anderson said – revealing that 28 per cent of iMac purchasers in Q2 were buying their first computer, while 17 per cent were Wintel switchers.

Apple sold 1,043,000 units during the quarter, up 26 per cent from a year ago. Sales included about 100,000 PowerBooks and

350,000 Power Mac G4s. Gross profit also increased because declining memory prices meant a better than forecast return on each unit sold.

International sales accounted for 51 per cent of revenue, with European sales climbing 36 per cent year over year. Sales in the Americas increased 28 per cent, while Japan and the rest of Asia climbed 12 and 13 per cent, respectively.

Following the announcement that Apple plans a two-for-one stock split, shareholders approved an increase in the company's authorized shares of common stock from 320,000 to 900,000. They also approved an amendment to Apple's 1998 Executive Officer Stock plan that reserves an additional 2 million shares for executive compensation, bringing the total to 19 million shares. Apple said the extra shares will make it easier "to attract and retain the best available personnel for positions of substantial responsibility with the company".

During their annual meeting, several shareholders stepped up to microphones to praise Apple CEO Steve Jobs and the other Apple executives for reviving the company, which many pundits gave up for dead a few years ago. Responding to one shareholder, Jobs said that "everybody's working their butts off really, really hard", noting that you can often see cars in the Apple parking lot on evenings and weekends.

Apple's shares hit an all-time high of \$150.75 on March 23, but sold for less than \$110 during April's Nasdaq slump.

James Niccolai



## Akamai streams into UK

Akamai, Apple's streaming-media partner, has officially opened for business in the UK. The company, which offers a content distribution service for online content providers, has also been chosen to Web-cast footage from this year's Cannes Film Festival. Akamai ([www.akamai.com](http://www.akamai.com)) provides a network of global, high-performance servers delivering Internet content, streaming media and applications to end users. Akamai owns 2,750 servers worldwide, positioning them in strategic areas where the strength of the 'network backbone' is at its weakest – the idea is that content providers with content hosted on Akamai servers 'leapfrog' bandwidth problems, meaning a better experience for end users.

### Bottleneck breaker

Tim Berners-Lee, one of the fathers of the World Wide Web, who sits on Akamai's board of advisers once said: "If the Internet becomes more widely adopted we will sooner or later face bottlenecks". It is to ease the effect of such bottlenecks that Akamai exists.

Content is broadcast to Akamai's servers conventionally, via the Web, and is also beamed down to the servers via satellite, thus negating any bandwidth blockages that may exist between the content provider's servers and potential end users.

Apple owns a stake in Akamai, and its investment has shown phenomenal growth, with a workforce that's grown from 30 employees last year to 515 today. Its has 33 networks worldwide – 75 servers are in the UK. The company plans on placing 6,000 servers worldwide by the end of 2000, and told *Macworld* that it hopes to begin rolling out a hybrid satellite broadband service over the next six months.

Jonny Evans



## Business briefs

■ In the wake of Interex's filing for Chapter 11 bankruptcy protection, the upgrade-card maker has been purchased by Tripp Lite. Subsidiary group XLR8 will be run as a separate unit. Jack Kolk, general manager XLR8, says that Tripp Lite has already financed development and new products for XLR8.

■ Adobe Systems holds 49th place in *Business Week's* Top 500 index, based on its financial performance in 1999. US-based *Graphics Exchange* magazine recognized Adobe's chairmen and co-founders as two of the most influential graphics visionaries in the last millennium.

■ Eazel, the Linux company founded by veteran ex-Apple employees has received \$11 million in its first round of funding from Accel Partners, a Silicon Valley venture capital firm. Bud Colligan, partner with Accel and former chairman of Macromedia has joined the company's board of directors.

■ Saudi billionaire Prince Alwaleed bin Talal, who holds investments in Apple, has made a combined billion-dollar investment in AOL, Compaq, Kodak and Xerox. Explaining his investment, he said: "I bought Apple at \$18, and now it's over \$100". He chose these stocks because all four were strong international brands, his total tech-stake is now \$7.3 billion.

■ AltaVista has postponed its initial public offering (IPO) citing the weak health of the Nasdaq. AltaVista had filed to sell 14.8 million shares of common stock at an expected price of \$18 to \$20 a share.

■ Macromedia has announced its new partnership with the Art Technology Group (ATG). The companies will integrate Dreamweaver, LikeMinds, and Aria products with ATG's Dynamo Product Suite of e-commerce and Internet personalization products.





## Brother gets Mac-savvy

**B**rother has released two Mac-friendly printer ranges. Previous Brother Mac-compatible printers depended on third-party drivers, but the new HL-2400Ce and HL-3400CN ranges come with Brother's proprietary Mac drivers. The company has also invested in dedicated aftersales Mac support.

The A4 HL-2400 Ce colour laser printer offers 2,400dpi printing at up to 8ppm (two-colour) or 16ppm (mono). There is 32MB memory as standard – upgradeable to 288MB – as well as a 167MHz RISC processor. Four of the five in the 2400 Ce range are network printers, and prices start at £1,149.

The top-of-the range £2,298 HL-2400CeN offers 288MB memory, a 6GB hard drive, advanced network-features and a Web-browser-based management system. The family comes with a 250-sheet tray, and can handle manual duplex printing.

The HL-3400CN family includes five A3 colour laser printers, with up to 2,400dpi resolution at speeds up to 3ppm (full colour) to 12ppm (mono) for A3 print. A4 print speeds are identical to the HL-2400 Ce and 32MB RAM is standard – expandable to 320MB. A 167MHz processor is included. All five in the range are network-ready, have a 250-sheet feeder tray and feature Web-based management features. Prices start at £2,379, with a top price of £4,254 for the high-end HL-3400CNDP2LT. This has 320MB of memory, a 6GB hard disk and Network printing capability.

**Brother, 0845 606 0626**



### Keep it in the family

*Brother's HL-2400 Ce (above) and the HL-3400 CN (below) now come with proprietary Mac drivers.*



### SoundJam plugs in

Casady & Greene has released SoundJam MP Plus 2.0 and SoundJam MP Free 2.0. The latter can convert and play back a wide range of audio formats. The former is a fast and fully featured MP3 player/encoder. It is Velocity Engine-compliant, records live from a sound input and includes a playlist composer and karaoke mode. SoundJam MP Plus 2.0 costs \$40.

**Soundjam, [www.soundjam.com](http://www.soundjam.com)**

### Time for a change

Steinberg has released TimeFactory, a solution for lossless time-stretching and pitch shifting. TimeFactory can apply time-stretching amounts of up to one third of the original length – the equivalent of slowing down a music piece from 120bpm to 90bpm. The software supports batch processing and WAVE, SDII and AIFF formats. It costs £340.

**Arbiter Music Technology, 020 8970 1909**

### Going Native

TC Works has released the TC Native Bundle for the Mac, a set of high-end music-processing plug-ins for multitrack composing. The £426 pack includes Native L, TC Native DEX, TC Native Reverb, TC Native EQ-P and TC Native EQ-G.

**Arbiter Music technology, 020 8970 1909**

### Qarbon date for release

Qarbon.com has released a free Mac-version of its Viewlet development tool, Leelou. It lets developers create mini-movies that play in a Java browser on any operating system. Once a Viewlet is created, Qarbon.com can be downloaded and posted for site visitors to use.

**Qarbon, [www.qarbon.com](http://www.qarbon.com)**

## New salvo from Canon

**C**anon has launched a new CanoScan FB1210U flatbed scanner and two bubble-jet printers. The FB1210U is the latest in its range of sleek, slimline scanners. It offers true 1,200-x-2,400dpi resolution, and uses 14-bit per colour input and output. It also comes with a one-button scanning operation, USB connectivity, optional slim-line film adaptor and a new Galilean lens for optimum optical performance. The scanner ships with Adobe Photoshop 5.0LE, Acrobat Reader, and Caere OCR software.

The company also announced the £119 FB630Ui. This USB-powered scanner has the same features as the award-winning FB630U, but has a stylish blue lid. Features include one-touch scanning, Canon's LIDE technology for sharp scans, and easy installation and set-up.

Canon's latest BubbleJet printer, the BJC-2100, is a restyled model based on the BJC-2000. The new-look printer features print speeds of 5ppm in mono and 2ppm in colour, drop-modulation technology for sharper results, and an optional scanner-head that converts it into a colour scanner and USB connections. Another new product is the faster BJC-6200 printer, with an output of 10ppm monochrome and 7ppm colour, and separate ink tanks, meaning less waste. Pricing for the BJC-2100 and 6200 are not yet available.

Canon has also released pricing and availability details of its digital camera, the PowerShot S20. The 3.34-megapixel model costs £700 and is now available.

**Canon, 01737 220 000**



continues page 38 ➤

**Aladdin trio updated**

Aladdin has released updates to three of its Mac utilities – MacHeadlines 1.9.1, MacTuner 2.1.5 and WeatherTracker 3.0.6. MacHeadlines is a scrolling news ticker that costs \$19.95; the \$22.95 MacTuner 2.1.5 receives live streaming radio, television and scanner access through the Internet; WeatherTracker 3.0.6 delivers weather data for over 8,000 cities worldwide. Registration costs \$24.95.

**Aladdin, [www.aladdinsys.com](http://www.aladdinsys.com)**

**3M projector lights way**

3M has released the MP7630 digital projector. It projects 700 ANSI lumens. Intelligent image-scaling technology also optimizes image quality for SXGA, XGA and VGA resolutions. The projector includes a VirtualMouse, so presenters can move around the room during a presentation. It costs £3,030. **3M, 01234 229 697**

**Umax in double launch**

Umax has launched scanners in its PowerLook pre-pass range – the 1100 (below) and the A3 2100XL, in Pro (£2,199) and Pre-press (£2,299) versions. The £799 1100 offers FireWire connectivity, a resolution of 1,200-x-2,400dpi and a 10,600-element CCD for 42-bit output. It also includes a transparency adaptor. **IMC, 01344 871 329.**

**Make a start-up**

Startup Doubler 2.5.4 is a software-based accelerator that turns extensions into control panels, making the Finder and start-up apps load faster. The shareware is \$20. **Marc Moini, [www.marcmoini.com](http://www.marcmoini.com).**

**FotoStation 4.0**

The demo version of FotoStation included on last month's cover CD was the Pro version, rather than the planned £90 consumer product. We apologize for any inconvenience caused. **Fotoware, 01780 721 001**

# Linoscan's USB first

Heidelberg CPS has announced the USB Linoscan 1200 and the FireWire Linoscan 1450 scanners. The Linoscan 1200 (right, top) is Heidelberg's first USB-enabled A4 flatbed scanner. A transparency unit is supplied as standard. The 1200 offers a 10,500-pixel CCD array and has a maximum resolution of 1,200-x-2,400dpi and 36-bit colour depth. The transparency unit is integrated in the hood for scanning 35mm slides, large-format transparencies and colour negatives.

Optional accessories include ScanOpen ICC, ViewOpen ICC and PrintOpen ICC for creating ICC (International Color Consortium) scanner, monitor and printer profiles. The scanner comes with LinoColor Elite scanning software, and costs £399.

The Linoscan 1450 (right, bottom) costs £1,249 and is an A4 scanner, featuring FireWire connectivity with a 10,600-line CCD array. The scanner has an optical resolution of 1,200-x-2,400dpi and a 42-bit colour depth. It also comes with an integrated transparency unit in its hood. The 1450 comes with LinoColor Elite 6.0 scanning software.

Also included is Heidelberg's ScanOpen ICC scanner calibration software and ICC profiles for both reflective and transparency options. **Heidelberg, 01242 285100**



# Tektronix range grows

Xerox has introduced the Tektronix Phaser 750 workgroup colour laser printer. The printer is the company's fifth-generation colour laser, and builds on the features of the Phaser 740. It has increased printing and processor speeds, and more realistic colour output.

The Phaser 750 ships with USB and SCSI connectivity, and is network-ready with 10/100 Base-T ethernet. It features a simplified network installation procedure thanks to the self-running utility and driver disk. The printer comes with built-in Adobe PostScript Level 3 and TekColor Dynamic Color Correction technology for accurate colour printing.

The 200MHz processor drives 16ppm black-&-white, 5ppm "fast colour" and 4ppm full-colour printing, and the printer delivers a resolution of 1,200-x-1,200dpi maximum, and 1,600-x-600dpi minimum. Other features include remote status notification, Internet printing, electronic collation, and pipelining (where the printer processes subsequent pages while the first page is printing).

Four configurations are available, priced from £1,966 to £3,570, with different standard memory sizes ranging from 64MB to 128MB, and various paper-capacity options. **Tektronix, 01344 392 200**



# Farallon gets to grips with Gigabit switches

Farallon's two new Fast Starlet Gigabit switches offer high-speed networking by easing server bottlenecks. The Gigabit Switch/4SX (PN9004SX), priced at £1,749, is aimed at users wanting to create a high-speed network backbone, providing four 1000Base-SX Fiber Gigabit ports. It gives 1,000Mbps connectivity, stores up to 32,000 unique Mac addresses, and provides maximum aggregate bandwidth of 4,000Mbps. The Fast Starlet Switch 10/100/1000 (PN9162), costing £1,457, offers 16 10/100 auto-negotiating ports and two 1000Base-SX Fiber up-link ports for connecting simultaneously to a Gigabit-equipped file server. **Softline 01372 726 333; Computers Unlimited, 0208 358 5857**

# Pinnacle causes stir

Pinnacle Systems has announced Commotion 3.0, the new version of the video-effects and compositing tool that the company recently bought from Puffin Designs. Commotion 3.0 is essentially a fresh product. The paint engine has been re-written from the ground up and the interface has been redesigned. It now has unlimited layers for compositing and painting, and 75 effects filters have been built in.

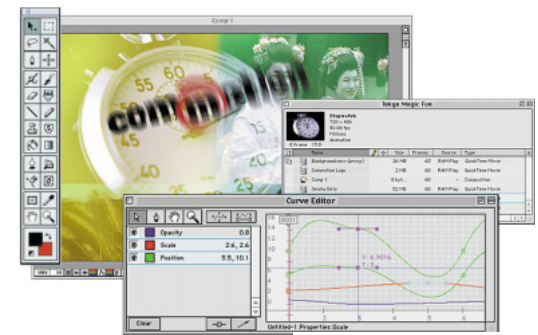
There are two different versions of the software – Commotion DV and Commotion Pro. DV has paint and compositing tools and 25 basic effects filters for digital video, while Pro has more advanced compositing and effects capabilities for video artists – such as 50 additional effects filters, motion tracking and unlimited resolution.

New features include a timeline and keyframing with full controls for compositing, sorting and keyframing multi-layer moving images. Users can now combine an unlimited number of layers using Photoshop-compatible blend modes.

The Composite Previews feature allows layers to be previewed and moved with direct controls over position, scale and rotation. PAL and NTSC preview output-support is included, as well as support for FireWire ports.

The built-in filters include automated colour-correction and the ability to remove unwanted speckles, dust or holes, as well as style tools for text and motion graphics effects, such as fractal particle systems.

**Pinnacle Systems, 01895 442 003**

**Bundle of tricks**

*Commotion 3.0 allows users to work with unlimited layers, composite elements together, apply transfer modes, paint directly onto clips – and animate it all over time.*

# Preflighting chocks away

Markzware has unveiled MarkzScout v2.0, a publishing tool that preflights, checks, sorts, filters and categorizes native digital documents and Postscript and PDF files.

This version has a new PDF Maker layout with multiple "watch folders", each with different Acrobat Distiller parameters. Job flattening is another new feature, separating individual component files from an entire job for separate processing.

The update, free to existing users, also has extra Flightcheck actions.

The company also announced MarkzNet – a new product allowing users to remotely preflight native document files via the Internet before uploading to an FTP server. **Softline, 01372 726 333**

# New colours easy to palette

Colour-standards provider Pantone has overhauled its Matching System Colour reference guides and chip books, adding 147 new colours, a whiter paper stock, and a new coated-paper edition. It brings the total number of its colours to 1,159.

The upgrades add colours across the spectrum, as well as a more diverse palette of earth tones. Pantone says the new paper stocks are cleaner and brighter, and it has added a matte-coated-paper edition.

The upgrades include revised colour guides and chip books that show off the new colours and paper stocks. Pantone's £82 Formula Guide should be on shelves by this May, as should Pantone Solid Chips, a three-volume binder that will sell for £235. Also coming out this spring, the Solid to Process Guide, which compares Pantone colours to their closest matches in CMYK process colour, will sell for £82; while Solid to Process Chips will sell for £229. Pantone's £82 Process Guide and two-volume £186 Process Chips are already available. Pantone, 01303 269 666

**Swatch watch**

*Pantone's latest releases bring the number of colours in its guides and chip books to 1,159.*

**3Com heads for SoHo**

3Com has announced a new US Robotics ISDN Pro terminal adaptor, designed for the SoHo market. It comes with a 15-minute installation guarantee, and transmits voice, data and video on a single digital-channel at speeds of up to 128K. It has USB and serial connection, an auto-update feature for keeping up-to-date on software upgrades, and a graphical interface for point-&-click features, such as security settings, connection diagnostics and driver updates. **3Com, 0118 927 8200**

**We have contact**

Power On Software has released Now Up-to-date & Contact Version 3.9. The contact-management and calendaring application now boasts Palm and Visor support. It costs \$99.95. **Power On Software, [www.poweronsoftware.com](http://www.poweronsoftware.com)**

**The missing link**

Voget Selbach Enterprises has released VSE Link Tester, a link-validation tool for Webmasters designed to fix broken and missing links. The \$19.95 standard version will test up to 20 pages on a single URL, the \$79.95 version can handle unlimited URLs and pages. **VSE, [www.vse-online.com](http://www.vse-online.com)**

**Ricoh release due**

Ricoh will in July release the RDC-7, a 3.3-megapixel image-capture device. It has a Pro Mode option, which increases the resolution to seven megapixels. Pricing was unavailable at press time. **Johnsons Photopia, 01782 75 33 00**

**Cache in**

The Arccom company has released its \$10 privacy-protecting NetShred 1.5.1 program, designed to destroy cache files and trashed email.

**Arccom, [www.arccom.bc.ca](http://www.arccom.bc.ca)**

*continues page 40*



## CDs & Books

### Top iMac lessons

*Teach Yourself the iMac* is one of the new titles from IDG Books. Priced at £18.99, it provides a foundation of skills and features for the iMac user. It applies the tutorial-style approach of the Teach Yourself series, and introduces information and concepts through modular tasks.

Transworld Publishers, 020 8579 2652

### Road ahead for atlases

Graphi-ogre is shipping two new Geoatlas products – America Vector and America Bump. They are collections of traditionally drawn maps that are digitized, modelled and detailed with Adobe Photoshop, Illustrator and Dimension. Vector is £199 and Bump costs £109. Cadmium, 020 8288 9219

### Games for girls

Knowledge Adventure has released a discount £24 bundle

of games called Fun for Girls, aimed at girls aged 8-12. It comprises Sabrina Spellbound, (pictured left), St Clare's



Friendship Kit and Fairy Tale. Havas Interactive, 0118 920 9100

### Cadmium in picture

Artbeats Digital Film Library's latest royalty-free product, Lifestyles-Mixed Cuts, is now available from Cadmium and is targeted at the broadcast and media market.

Cadmium, 020 8288 9218

### Two-Can in element

Two-Can has published InterFact Air and InterFact Earth, aimed at 7-to-12-year-olds and is priced at £12.99. Air, costing £9.99, has 15 hours of interactive games, while Earth has 30 hours of educational games.

Two-Can Publishing, 020 7224 2440

# Debut for Epson duo

Epson has unleashed a brace of new printers – the budget-priced ink-jet Stylus Color 670 and the compact 1,200dpi EPL-5800 laser printer. The EPL-5800 offers print speeds up to 10 pages per minute (ppm) at 1,200dpi resolution. It comes with both USB and parallel interfaces, Windows and Mac drivers and a built-in 133MHz high-performance RISC processor. 16MB memory comes as standard, with a 256MB upper limit. A 150-sheet universal paper tray comes as standard, though an optional 500-sheet paper unit is also available.

The basic EPL-5800 is £319, but three models are available in the range, though prices were unavailable at press time.

The EPL-5800 is the standard 10ppm A4 printer, the EPL-5800N comes with a 10/100TX Base Network Print Server. The EPL-5800PS is the standard machine, with the addition of Adobe PostScript 3 and a total of 144MB memory.

The second printer from Epson, aimed at the budget-conscious, is the £85, cross-platform Stylus Color 670. This offers parallel and USB interfaces and 1,440dpi PhotoReal output. The printer uses Epson's unique Variable Sized Droplet technology and can reach speeds of up to 5ppm for an A4 mono letter (in economy mode), and 1.8 ppm for A4 text and photos printed at 360dpi (in normal mode). The printer driver has been updated, and with PhotoEnhancer 4 will automatically optimize colour output and enhance the quality of digital images. The printer comes with Corel's CustomPhoto software.

Epson, 0800 220 546



### Print union

The EPL-5800 (above) has a print-speed of up to 10ppm, while the Stylus Color 670 (below) offers 1,440dpi PhotoReal output.



# Sharp focus on LCD

Sharp has announced two LCD monitors – the 15-inch LL-T155A and 18-inch LL-T181A (pictured). Both low-power consumption monitors (22W and 54W

respectively) display up to 16 million colours. The XGA-based, £750, 15-inch, LL-T155A model has a display area equivalent to a 17-inch CRT monitor, but uses only 40 per cent of the power of a conventional 17-inch CRT.

It includes an RGB computer input and an adjustable stand. Brightness, contrast, screen size and other adjustments are controlled through an on-screen display. It can reach a resolution of

1,024-x-768 pixels, with a refresh rate of 56-75Hz.

The £1,900 18-inch LL-T181A is 80mm in depth. It offers high levels of brightness and contrast, with an SXGA resolution of 1,280-x-1,024 pixels.

Two computer inputs come as standard, and a change-over switch on the front panel of the monitor lets the user alternate between the screens of the connected computers.

The adjustable monitor offers a refresh rate up to 56-76 Hz and its controls are also on-screen. The monitor offers automatic picture adjustment, anti-phase noise smoothing and screen expansion. Sharp, 0800 262 958



Mac OS X may signal Apple's chance to gain global domination over Microsoft.

David Fanning



## X marks the spot

As a Macintosh user of some experience, I've seen some changes. In the beginning, I was the user of an insanely great Macintosh – the Mac Plus was years ahead of DOS.

Later, after Windows appeared, the “other guys” tried to pigeonhole the Mac as the arty computer “good for just graphics”. While Windows was a copy of the Mac OS, later versions of Windows narrowed the usability gap, although it never quite caught up completely. What did happen, though, was the Mac OS was pushed to less than five per cent of all desktop computers around. A depressing position, but you get used to being the underdog – even if you don't like it.

So are devotees of the Mac OS doomed to always be at the bottom of the computing league? Not necessarily. In fact, I have a plan so cunning you could stick a tail on it and call it a weasel. It might already be on Apple's secret agenda. If it isn't, it should be – so Steve, if you're reading this, please accept my master-plan for world domination at no cost or obligation. I'm sure you'll agree it's the best thing for all of us.

First of all, we must wait for Mac OS X to be released, so we can show the world what a fabulous operating system we have. It's going to be loaded with all the must-haves a modern operating system needs – from protected-memory to multithreaded multitasking. But more importantly, it's going to be beautiful and will revolutionize the way an operating system should look and feel – and Apple isn't about to let Microsoft steal that again. PC users already secretly hanker for a beautiful machine like the iMac, but they can't handle the idea of using the Mac OS. When they see the high-powered yet beautiful Mac OS X it will drag them even closer to the Macintosh. But what I don't expect to happen is for PC users to suddenly throw out their computers and their software in favour of the Mac.

What needs to happen is for the transition to be simple and painless. In the world of Mac computing, such huge transitions are commonplace. The move to PowerPC, System 7, G3, and others, all went quite smoothly. If Apple can make the transition from PC to Macintosh that smooth, PC users are more likely to be persuaded.

In OS X, if you launch an application that is designed for Mac OS 9, it launches Mac OS Classic. This is essentially OS 9 running as an application within OS X. At the moment, it's not possible to do the

same thing with Windows launching within OS X, but it is theoretically possible without too much work.

If Steve Jobs were to give the go-ahead to develop this now, it could make all the difference. Giving the second release of OS X the capability of running Windows software would take the sting out of crossing platforms. Though it would still not be enough to encourage all Windows users to make the transition.

The next step would be the boldest of all: making OS X available to run on Intel processors. Again, this is entirely possible – all it needs is some development work. Some of this work is rumoured to be underway already, in unofficial “skunk-works” projects. This would need to be carefully handled, because it would open up the Mac to computers other than those made by Apple. This is necessary, though, because after being held ransom by Microsoft, computer users are unlikely to choose a computer system where one company owns both the OS and the hardware.

This would raise all kinds of monopoly problems for Apple – so steps would have to be taken to avoid *total* control.

With the non-monopolistic nature of the Mac OS in a cross-platform environment, PC users – indeed whole corporations – may choose it over Windows. Giving people a real option of operating system would give people the freedom to choose, and who better to choose than the company that made it possible.

If half the population of PC users moved over to an OS X environment at, say, £100 per machine Apple would be rolling in cash. You may think all this would undermine Mac hardware sales – but if the OS was designed specifically to run on the Mac it could remain the premium hardware platform for Mac computing. There would undoubtedly be other manufacturers undercutting Apple – but plenty of people undercut Ferrari without upsetting it.

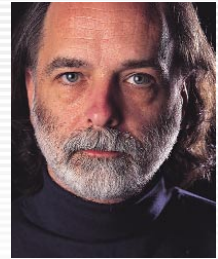
If Apple continued to supply the software engine it would still be making a healthy living – in fact, even better than it is now.

I believe it will soon be time for the Big Push. It's time to go to war on Windows, and to shed the underdog tag. With careful planning and the right marketing, Apple could in one fell swoop crack the Microsoft monopoly, create a fair choice for consumers, make a financial killing – and come out smelling of roses as the platform for the people. MW



If you let Gates dominate pocket-sized Web devices, then prepare for the worst.

Michael Prochack



## Pocket monsters

A part from proving PT Barnum right yet again, the recent dot-comedy antics on the stock exchange suggest that serial greed is alive and well. But while Uncle Bill may have had several billion deleted from his bank account, most of the fixers are simply sniffing around for the next big money trough.

The next deep pocket everyone seems to be seeking trying to sink their palms into is hand-held Web devices. In the wake of WAP and Web-TV whispers, we've been awash with news of the recent release of a whole new generation of hand-held devices designed to change the way we work, rest and play... and all running a Microsoft operating system.

Getting slapped down in court has apparently done little to diminish Uncle Bill's ego and predatory arrogance. Instead of sitting down to weep, his recent grand unveiling of a third version of Windows CE for hand-held devices at New York's Grand Central Station suggests that the pocket market currently dominated by the Mac-friendly Palm has become the next target for the Microsoft menace. Uncle Bill's new device, imaginatively called 'Pocket PC powered by Microsoft Windows', will feature yet another OS based on the Windows CE kernel.

Around the time when Apple's original visionary but dyslexic Newton PDA was in its death throes, Windows CE was launched with much hype at Fall Comdex 1996. But strangely enough, because it was so much like Windows, it never actually caught on with the end-user. Despite many technological firsts, including the first colour OS and integration with Windows itself, CE never established itself as a competitor to Palm. Microsoft has used the first two versions of Windows CE to refine what it hopes will be the finished product. Unfortunately, we all know what Microsoft means by 'finished product' – and the old joke about Microsoft not needing beta-testors when it's got the general public never really was that funny.

But by extending audio, video and multimedia features, the Redmond mob obviously thinks it can capture the consumer market, and eventually gain entrance into the enterprise market via the back door. Or is that back pocket?

Microsoft claims to have steadily improved Windows CE over the past few years and finally dropped the authentically clunky Windows-derived user interface for one that's ostensibly easier to use,

with a stylus-pointing device. And, as one might also expect, Microsoft will include pocket versions of its scintillating applications such as Internet Explorer, Excel, and Word. In addition, it will add a File Explorer component for Pocket PC devices to manage files and applications, along with an application to read e-books. Functionality will be added to the browser to bring it closer to Internet Explorer 4/5, which can use plug-ins and read Web sites that have been scripted in Java.

Whether Microsoft can mount a significant challenge against the market-dominant Palm, will depend on how well the Evil Empire can market its products. And as we all know, these guys can sell snow to Eskimos in a blizzard.

The usual intimidation, aligned with public lethargy, could push Microsoft into a good position within the emerging handheld product marketplace that Apple arguably invented. Fortunately, for the moment at least, it would seem that overtaking Palm in the PDA space may happen only if Palm actually pulls an Apple and stumbles badly. And the new Visor from Handspring might add another element of choice to the competitive mix.

But for anyone who wants to draw a hand in the palm-poker stakes, it's probably time to take a considered look at where or even if, these devices are going to be used. Despite the potential for corporate penetration, the biggest market may yet prove to be the consumer space where there's already an all-too morbid fascination with things like Web displays on fridges and Star Trek-style WAP watches. Once people get beyond the 'gosh-golly-gee' factor, they may start asking questions about what these geeky things are really good for. Is having unlimited and undifferentiated information at their fingertips – anytime, anywhere – is really such an interesting or desirable thing.

A few years ago, when I wrote a book about mobile computing and where it all might be going, the mantra everyone seemed to be chanting was faster... lighter... smaller... and more powerful. And while you don't have to be a palm-reader to speculate about what sort of goofy gadgets people might decide they want to carry around in the future, I knew for a fact I didn't want Windows on my desktop or on my notebook then, and I certainly don't want Windows in my pocket now. Once they're in your pocket, the whole thing could get out of hand. **mw**



## Macworld Rating

★★★★★/9.0-10.0 = OUTSTANDING

★★★★/7.0-8.9 = VERY GOOD

★★★/5.0-6.9 = GOOD

★★/3.0-4.9 = FLAWED

★/0-2.9 = UNACCEPTABLE



## Web-browser stalwart

### Netscape 6 preview edition

**Publisher:** Netscape [www.netscape.com](http://www.netscape.com)  
**Pros:** It's free.  
**Cons:** So's Internet Explorer.  
**Price:** Free.

The real news with the release of the first preview edition of the Netscape 6 Web browser isn't its new rendering engine – code-named Gecko – or its support for World Wide Web Consortium (W3C) standards consortium. The news is that this version of Netscape shifts the browser's purpose away from looking at Web pages, to using Netscape-based services on the Internet.

For the last four years, Netscape and Microsoft have been battling to see which company was going to dominate the browser market. One of the strategies was to woo developers by introducing whizzy new technologies. But, what worked in Netscape wouldn't work in Microsoft, and vice versa.

#### Group force

The strategy backfired. Instead of loving specific technology, and building sites that implicitly endorsed one browser over the other, developers simply worked with a limited toolbox. They banded together to demand the browsers drop the proprietary nonsense, and be built to set standards.

The developers have been heard – both new browser versions strive for visual consistency with font sizes and style-sheet implementations.

Netscape's moved on to conquer a larger audience – Web surfers, not developers. When a new browser window opens, users see more than Web pages loading. They also have the option to view a "sidebar" panel that includes a search tool, an AOL Instant Messenger "Buddy List", customizable stock listings, a list of related sites, a CNN.com feed, a Reuters headline feed, and links to third-party sites that have developed Netscape sidebar content.

Users can also click a portion of the bottom of their active browser window to cue Netscape's WYSIWYG editor, Composer. They can access their personalized Netscape calendar, multiple AOL and email accounts, instant messaging, and a host of recommended links. Netscape is driving its users toward the model of the browser as central hub for a host of Web activities.

#### New look

One of the new features Netscape is promoting is the browser's greatly changed interface. It's blue, very blue. The new palette doesn't mimic Aqua in any way, shape, or form, but it's awash in different cool hues. The standard text and icons toolbar we're all used to from Netscape 4, has been replaced with one compact, multi-level bar at the top of the screen. The forward, back, and home buttons have all been replaced with big, round icons – users can mouse above the buttons to check their bookmarks, go home, or visit the portal my.netscape.com. Although users do have the option to make both the top navigation bars disappear, and thus increase their screen space, in doing so they lose functionality.

It would be nice if users could select an all-text toolbar as a compact alternative to the big, icon-driven one. It would have been even nicer if Netscape had taken a page from Microsoft in this case, and let users create their own top navigation bar, with either icons or a text-only option.

Unfortunately, users have no control over the bottom of their browser window. Every one comes packed with those extra features – Composer, Instant Messenger, shopping, a personalized calendar and tons of Netscape links. While it's understandable that Netscape wants to include opportunities to tap into its services – AOL's interface runs on the same model – it cuts into browser space.

Even more annoying than the greatly reduced browser space is the lack of customizability within the browser. If you want to customize the look of pages within my browser – to change colour combinations, for example – you can no longer do so. Currently, there's no option to set font faces, sizes and resolution. While this last option goes a long way in reconciling the font-appearance discrepancies between Mac and Windows platforms, the entire array of appearance-controlling options has been sharply reduced. I hope that this is only an article of the browser's preview-release status.

Although Internet Explorer 5 has been getting some modest press for its implementation of the CSS1 (Cascading Style Sheets) standard, Netscape 6 also offers full support for CSS1 and implementation of JavaScript 1.5. What's interesting to note, is how well Netscape 6 handles pages Internet Explorer 4.5 and 5 can handle, and what the critical differences are.

The first thing I checked was the Web site for Apple's Worldwide Developers Conference. In Internet Explorer 5, the text was scrunched or overlapped in spots – a common phenomenon on several style-sheeted pages when rendered in IE. Netscape 6 loaded the page with no trouble.

Then I checked one of my favourite Web-development sites, Web Environments. In Internet Explorer 4.5 and 5, the page looks fine – in Netscape 6, it looked as though it had been through a blender. The moral of the story is similar to the moral for IE5 users – expect some of your favourite sites to start looking very different.

#### Macworld's buying advice

A lot of Netscape 6's bugginess – not being able to make shortcut keys work, the slow loading time for many sites, the inability to customize a page's appearance, the strange style sheet behaviour – is probably the result of using a preview version of a new browser.

But, the most interesting thing about this browser is its shift away from basic Web browsing, and toward related online activities. It's a tacit acknowledgement that the Web has changed, and browser users are much more likely to be consumers than hard-core Net geeks. Whether or not these changes are a good thing – we'll have to wait and see.

**Lisa Schmeiser**

Apple's release of Mac OS 9.0.4 is sure to gladden the hearts of Mac partisans everywhere.

After all, we've been waiting for this update almost since the day OS 9 was released. The initial release was dogged by several nasty bugs, most notably one that renders the hard drives of iBooks inaccessible.

The 12.5MB download folds in these bug fixes, several previously released updates and some other minor changes – it can be accessed from Apple's Web site, or via Mac OS 9's Software Update control panel.

At least in theory. I tried several times to use the Software Update control panel to download 9.0.4, but each time I tried, I was either rewarded with "Unable to connect to the Internet", or "... Did not find any new or updated versions of your software". So, I went to Apple's software-download area to get the file.

According to the Apple site, Mac OS 9.0.4 works with all computers that can handle Mac OS 9. That list includes vintage PowerPC machines from Apple and its erstwhile cloners, through February's to hardware releases at Macworld Expo, Tokyo.

The new OS boosts support for current Macs' FireWire and Universal Serial Bus (USB) connectivity, enhances networking and power management, and improves audio, video and graphics functionality. For a minute dissection of each, check out Apple's Technote 1194, which details all the bug fixes and enhancements in Mac OS 9.0.4.

Once I downloaded the update, the self-mounting image appeared on my desktop. Clicking the installer presents you with the standard licence agreement,

followed by the now-customary install screen. The only choice available to users other than the install disk is whether or not to update the disk drivers. The whole process took less than three minutes, and I rebooted to OS 9.0.4.

And the result was... nothing seemed different. No new icons on my desktop, no new colours, no new gadgets. My iMac DV booted exactly the same as before. Curious that nothing was dramatically different, I checked "About This Computer" and found that it indeed said "Version: 9.0.4", and to the right of it read PowerPC Enabler 9.0.4. Considering its PowerPC-only, the inclusion of an enabler seems a little counter-intuitive.

However, there's more to this upgrade than meets the eye. Further investigation of my System folder revealed that several major components of the OS have been patched in this release, including the Audio extension, Sound Manager, and CD/DVD driver. These sound improvements presumably address a problem that affected audio syncing of the software DVD player. Also patched are Open Transport, which now registers as Version 2.6.1; FireWire, up to 2.3.3; Energy Saver, now 2.5.5; USB extensions, boosted to 1.4.1; and OpenGL, now at 1.1.3.

Other, lesser upgrades tune Apple Menu Items, AppleShare, CarbonLib, Control Strip, File Sync and Foreign File Access, Iomega drivers, Keyboard, Software Update, Voice Verification, and IIRa for those Macs equipped with an infrared port. Last but not least, a revised System Disk Control Panel affords users direct boot access to the forthcoming Mac OS X.

Once the update was installed, I also downloaded and installed the Apple DVD Player 2.2 update, which is required for DVD-equipped PowerBooks, G4s and slot-loading iMacs. I played a couple DVDs with it and skipped and scanned it forward and backwards. Despite my best efforts, I was unable to knock the video and the audio out of sync, other than making it burp when switching between applications.

My experiences so far are pretty positive, if unremarkable. Installing it on my office G4 cured some minor USB problems I had been experiencing. Everything works as it should, and nothing calls attention to itself. This makes me happy – an unobtrusive OS is a good OS, to my way of thinking.

#### Macworld's buying advice

Apple has had a lot of time to get OS 9 right. This release marks the penultimate release of the original Mac OS, which debuted with the original 128K Macintosh in 1984. Nevertheless, Apple is rumoured to be hard at work on one last update to the classic Mac OS before the summer release of the all-new Mac OS X.

**Adam Gillitt**

**OS 9 update**

**Mac OS 9.0.4**

**Publisher:** Apple

[www.apple.com](http://www.apple.com)

**Pros:** Supports network booting; fixes bugs; it's a free upgrade.

**Cons:** There isn't much to see, benefits are largely intangible.

**Price:** Free to Mac OS 9 users.

**Star Rating:** ★★ ★★/8.7



#### New boots

Mac OS 9.0.4 now lets you boot from an OS X server (see above). The screenshot below shows the only visible sign of the upgrade.







Path-finding aid

# Route 66 2000

Publisher: Route 66 www.route66.nl

Distributor: Softline (01372 726 333)

Pros: Faster than before; 50,000 new points of interest; GPS compatibility.

Cons: Still a little quirky; back-street maps not always correct.

Price: £29 (including VAT)

Star Rating: ★★★★★/8.2

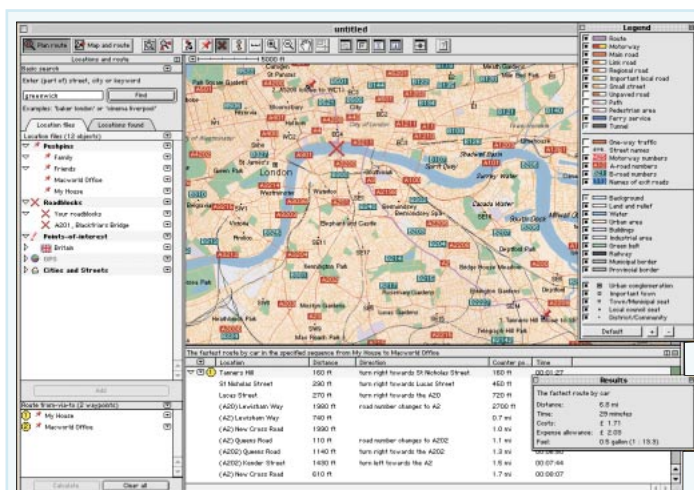
A year ago, I reviewed the predecessor to this program Route 66 99. It made a great impression as a truly interactive map of Britain with many ways to navigate from town-to-town and street-to-street. It wasn't without flaws, but it was so helpful and inexpensive that I loved it. The new version has addressed some of the problems of the older version and added some new features – but there are still quirks.

One of the problems with the last version, was a tendency to ignore its own information. For example, one route sent me down a flight of stairs in a pedestrian alleyway. The new version now aims me on a more sensible route – without the need for a stunt man.

The maps have been updated, so the street I live on – which was made one-way just as the previous version was released – is now marked as such. The maps are still not perfect though – smaller streets are more likely to be inaccurate, and blocked-off streets are particularly problematic. Whoever's in charge of updating doesn't get all the information needed for the back-streets of Britain.

## Piece of cake

However, most long journeys take place on the highways and byways, and these are accurate. And navigating them with Route 66 is easier than ever. Simply type in a street, town, station, park or hotel and it will find it, or a list of possibilities, in a second or two. This is a big improvement over the previous system, which was constantly trying to pre-empt



## Map it out

Get Route 66 to map-out a familiar journey, like a route to work. Traffic can be factored-in, so the journey time can be accurately calculated.

the destination after each letter was typed. It was a nice idea, but it made the process frustratingly slow. There's also a postcode search available as an alternative way of finding a street.

The file of landmarks has been expanded to include major hotels and sports facilities, and even bowling alleys and wineries. It isn't clear how these hot spots are selected, but the list isn't complete by any means. It's an improvement, though – smaller airports are now included, instead of just the international ones. The parking facilities feature is especially useful. In a city like London, parking space is difficult to find, and signs in central London can be misleading. The hotel guide, while not complete, is still useful – it gives full addresses and telephone numbers, even for 020 lines. It would be possible to spend weeks on the road without resorting to a tourist information centre, though they're included too.

Navigating is simply a matter of typing in a start point and destination, and hitting the calculate button. Often-used addresses can be recorded as push pins. This means the address can be clicked on, rather than looked up every time. When Route 66 calculates a journey, it gives a list of directions and shows the route on the map.

There's also a results window showing distance and time calculations. It shows fuel and expense calculations, but these need to be set up correctly to get an accurate result. Setting up the fuel consumption is a little frustrating because when it is set up for miles, it must be calculated for per-gallon consumption – litres would be the obvious choice in the UK. The measurements can be

changed to metric, but that means all the distances are in kilometres.

Something that's missing since the last version is mode of transport. Before, you could specify whether a truck or a car was being used for the journey. Not everybody drives both a truck and a car, but it gave the opportunity to set different speeds for different vehicles. In my case, it gave me the chance to put settings in more suited to a motorcycle. This wasn't just useful for car driver/motorcycle riders like me – people with two cars with different MPG are now stymied.

There are various time-calculation options, and, if done carefully, you need never be late. You can even decide how much traffic will slow a journey down – the default setting is 50 per cent.

One useful feature of the route calculations is the new roadblock tool. This enables a re-route to avoid bridges or roads that are closed, or roads you don't like.

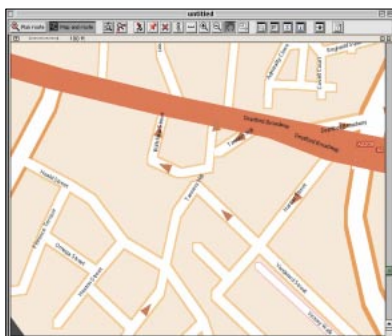
The one feature I didn't get to try out was the GPS link that tracks your progress using the Global Positioning Satellite system. One for the professionals obviously, but if any GPS manufacturers are reading this, I'd love to try it out.

## Macworld's buying advice

Route 66 2000 is still not perfect – it has its quirks and people will always have their favourite routes. There are now even more features to recommend this product, though, and a commercial traveller would find this invaluable. Motoring holiday-makers and day-trippers will also get much from this product. For the price, which remains £29, it's a fantastic deal.

David Fanning

*Face to face*  
Residents of Deptford will know that Tanners Hill doesn't really end by meeting another one-way street head on. Route 66 back-streets still need some work.



Officially, the term groupware applies to software that businesses can use to promote collaboration – in the real world, it tends to mean “email plus scheduling”. The name Lotus Notes was virtually synonymous with groupware a few years back, but the program wasn’t available for the Macintosh. After several twists and turns following IBM’s acquisition of Lotus, Notes landed on the Mac, first as a Release 4.6 and now as a Release 5 (R5) client. The corresponding Domino server is still primarily a Unix and Windows product.

The Mac version does an excellent, but idiosyncratic job of handling email and scheduling – it even functions as a Web browser. The Mac client is available in two slightly different versions. Notes for Collaboration is used on both remote servers in general, and Domino R5-based servers, so it supports database features specific to Domino. Notes for Messaging offers many impressive collaboration functions – including group scheduling over the Web – but lacks Domino-specific functions.

### Well thought out

The basic architecture of Notes was developed before the rise of the Internet and the appearance of Web browsers, so it’s not derived from Mosaic, as other Web browsers are. But, the original programmers had the luxury of really thinking through what works, and what doesn’t in the way of business email and scheduling.

Notes can combine all a company’s email sources in a single in-box, works with all Internet email protocols, and implements more and better security features than Outlook Express and Netscape Communicator. Notes’ email component also sports a cool “soft” Trash function, a lifesaving feature that can recover deleted mail during a specified calendar interval. When Notes is installed, it reads Microsoft Internet Explorer and Netscape Navigator bookmarks and makes them available through icons on Notes’ Welcome page – which can be customized with news headlines, stock quotes, and other Web components.

The scheduling functions support network-wide time management for interactive-group calendars, detailed task prioritization, and alarms. Total integration with to-do lists, contact lists, and Web elements – such as bookmarks, images, and links – is also supported. If you talk to users, you’ll hear lots of enthusiasm for and loyalty to the program’s scheduling features – when compared with online scheduling software, Notes really stands out.

Compared with other products at this level of complexity, Notes offers nearly effortless installation – it takes about 15 minutes. The client installer simply asks what connections you have – Domino server, standard ISP, or other remote connection – and ferrets out all other pertinent email and Web information on its own.

Installing the Domino R5 server software is another matter. We tested it on a Windows NT 4.0 Intel-based workstation, and installation was a serious matter requiring attention to dozens of settings – a business will need someone with a solid systems-administration background to install and maintain the Domino server. And, whereas the client manual is thorough and easy to read, the server manual is stronger stuff.

### Missing memory

The Macintosh client is much slower than its Windows equivalent on comparable hardware. It also displays two of the problems characteristic of software ported to the Mac from Windows code. First, are the “mystery hangs” – when the remote online connection is terminated, the system crashes about one time out of six. Second, are the memory-management problems. If the Internet Explorer icon is clicked during a session, the memory used isn’t recovered when the window is closed. To be fair, the problem of not recognizing free memory when a function is closed is probably Microsoft’s fault, since it happens in Office as well. Still, if Lotus puts an Internet Explorer icon on Notes’ Welcome page, it should make sure it works.

Also, strangely, the labels for items on the Welcome screen are sometimes missing letters, so that Mail appears as “ai” and Calendar appears as “Caendar”. Finally, one minor interface complaint stems from Notes’ long pre-Web history – what Macintosh user would expect the icon you click on to get email to be labelled not Mail but Replicator?

Realistically, there are no alternatives to Notes in its class. There are other schedulers, but none provide comparable flexibility and cross-network viewability



Email and scheduling package

## Lotus Notes Release 5

**Publisher:** Lotus Development (08700 6006 123) [www.lotus.com](http://www.lotus.com)

**Pros:** Great options for handling email; flexible group-scheduling features.

**Cons:** Macintosh version needs platform-specific refinement.

**Price:** Notes for Messaging, £55; Notes for Collaboration, £72 (all excluding VAT).

**Star Rating:** ★★★★★7.9

to all groups. And, there are other email systems, of course, but compared with Notes, they’re awkward and short on features. If Microsoft keeps adding Notes-style features to Outlook, Notes’ nearest competitor as far as email is concerned, Outlook 6, might be competitive with Notes R4.6, but it won’t catch up to Notes R5 anytime soon. When Office 2000 hits the Mac, some VisualBasic programming will be possible to implement a few Notes-like group-scheduling features, but very few PC users have successfully implemented groupware in Office.

### Macworld’s buying advice

If you need to co-ordinate communication and activities across several groups or offices, Lotus Notes Release 5 is superior to all other products currently available. The only wrinkle for Macintosh users is that some of Notes’ features require that an IT professional implement the £1,586 (excluding VAT) Domino server software on a non-Mac platform. For businesses large enough to have systems administrators, the power of Notes justifies the price – if your business is small, look elsewhere.

**Charles Seiter**



### Altogether now

Lotus Notes Release 5 provides group scheduling and email. The email package is well thought out, but because it was ported from Windows there are a few bugs with memory management and on-screen messages.



G4 upgrade cards — tested and rated

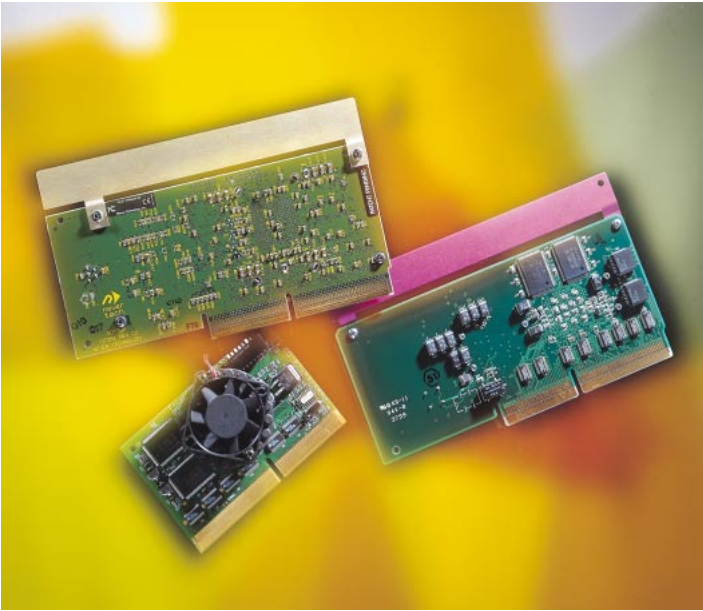
Apple doesn't seem to like beige. The public doesn't seem to like beige. You may not like beige. But if you have a beige Mac on your desktop, you might want to consider upgrading it rather than going graphite.

The latest G4-upgrade cards are surprisingly stable, and bring an older Power Mac's performance close to that of new Macs. With prices ranging from £425 to £600, G4 upgrades aren't cheap, but many users — particularly those with lots of peripherals — will find them a cheaper alternative to new 400MHz G4 systems, which start at £1,099.

What we tested

Macworld Lab took a look at all the US-made G4 processor slot upgrade cards, in both 350MHz and 400MHz configurations: Newer Technology's MAXpowr G4, Powerlogix's PowerForce G4, Sonnet Technologies' Crescendo G4 PCI, and XLR8's Mach Carrier G4. These upgrades work by replacing the Mac's original CPU with a new one driven by a G4 processor. They're for use in the Power Macintosh 7300, 7500, 7600, 8500, 8600, 9500, and 9600; the DayStar Genesis and Millennium; the Power Computing PowerTower Pro and PowerWave; and the Umax.

The big difference between a G4 processor and a G3 processor is that the G4 uses AltiVec — called Velocity Engine by Apple. AltiVec offers a major speed boost, but only to applications that take advantage of it — most notably multimedia and graphics software.



Clock speed  
Clockwise from upper left: Newer Technology's MAXpowr G4, Sonnet Technologies' Crescendo G4 PCI, and Powerlogix's PowerForce G4.

In addition, not all software has been optimized to derive a performance benefit from the G4 processor — to see a list of software currently optimized for the G4, go to [www.macworld.co.uk/upgrades](http://www.macworld.co.uk/upgrades). If the applications you commonly use aren't on that list, you may want to consider getting a G3 upgrade for your Mac instead — a G4 upgrade won't give you much of a boost.

All the G4 slot upgrades we tested delivered similar performance — not surprising, since they're all based on the same processor. What is remarkable about the upgrades is how close they come to matching the performance of

new G4 machines. In most of our tests, each upgrade running in a Power Mac 7300 was nearly as fast as a graphite G4 with the same processor speed.

Not up to it

Surprisingly, the only time the upgraded 7300 lagged noticeably behind was when we ran the Quake III tests — though, to be fair, the upgrades were running in a machine that previously played Quake III only grudgingly.

All sophisticated computer processors use a technique called speculative processing — moving data they think they will need into the cache — to improve

How they compare

MANUFACTURER	MODEL	STAR RATING	PROS	CONS	PRICE	DISTRIBUTOR	WEB
Newer	MAXpowr G4/350MHz	★★★★/8.4	Easiest to install; on-board speculative-processing fix	No DIP switches	£425	AM Micro (01392 426 473)	<a href="http://www.newertech.com">www.newertech.com</a>
Newer	MAXpowr G4/400MHz	★★★★/8.6	Easy to install; on board speculative-processing fix	Expensive; no DIP switches	£549	AM Micro (01392 426 473)	<a href="http://www.newertech.com">www.newertech.com</a>
Powerlogix	ProFormance G4/400MHz	★★★★/7.9	Includes fan; DIP switches let you select bus and processor-speed	Documentation is complex	£600	Channel (0870 607 0540) Dynamics	<a href="http://www.powerlogix.com">www.powerlogix.com</a>
Sonnet	Crescendo PCI G4/350MHz	★★★★/7.9	Easy to install; excellent documentation	No DIP switches	£429	Computers (020 8358 5857) Unlimited	<a href="http://www.sonnet.com">www.sonnet.com</a>
Sonnet	Crescendo PCI G4/400MHz	★★★★/8.4	Easy to install; excellent documentation	Expensive; no DIP switches	£479	Computers (020 8358 5857) Unlimited	<a href="http://www.sonnet.com">www.sonnet.com</a>
XLR8	Mach Carrier G4/350MHz	★★★★/8.4	ZIF card allows for future upgrades; DIP switches for optimal bus and processor speeds	Expensive	£499	Interex (01525 377 551)	<a href="http://www.xlr8.com">www.xlr8.com</a>
XLR8	Mach Carrier G4/400MHz	★★★★/8.6	Small carrier; DIP switches for optimal bus and processor speeds	Expensive	£589	Interex (01525 377 551)	<a href="http://www.xlr8.com">www.xlr8.com</a>

All prices include VAT.

overall performance. The G4, since it usually runs four or more times as fast as the system bus, has a lot of time to speculate.

Getting a G4 upgrade to work in an older Mac means adding a bit of code to the Mac's open firmware — data stored on your Mac that controls some of its most basic functions — to prevent the new processor from making catastrophic mistakes while speculating. Newer Technology's upgrades have a ROM chip that contains this data — when the upgrade starts up, it puts the data into the Mac's open firmware. All the other upgrades take a software approach,

requiring code to be added to your Mac's open firmware from a floppy disk when the upgrade card is installed.

The problem with the software approach is the added code can be deleted accidentally by zapping the PRAM. If this happens and your Mac refuses to start up, remove the upgrade and reinstall the original processor, then run the open-firmware updater again, and finally reinstall the upgrade. If you remember to hang on to your old processor and the firmware floppy, then buy the least-expensive G4 upgrade — if you're likely to forget, go with a Newer card.

Macworld's buying advice

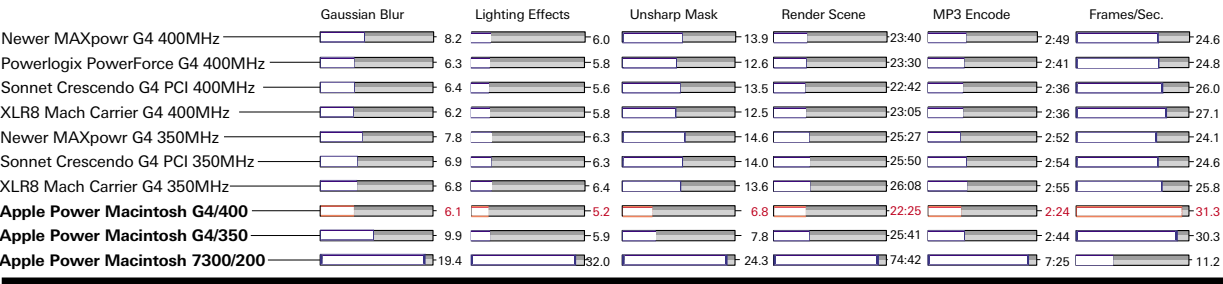
This latest crop of upgrade cards offers terrific performance, nearly matching that of Apple's current systems. Newer's solution to the speculative-processing issue is more robust, but all the cards are stable and perform well. The upgrade market is competitive, so be sure to check current prices before buying — prices drop often. No matter which card you choose, there'll be a noticeable performance boost. You may suffer from graphite envy, but these upgrades make it cool to be beige. And they won't set you back over £1,000.

David Read

G4 slot-upgrades add muscle to older Macs

Best results in test.Reference systems in bold. Photoshop results are in seconds.

Bryce and SoundJam results are in minutes:seconds.



Behind our tests

We tested each upgrade card in a Power Macintosh 7300/200 with Mac OS 9, 128MB of RAM, a 2MB system disk cache, virtual memory disabled, and an ATI Rage Orion graphics accelerator. We performed Photoshop tests with a 30MB file. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds in length. We tested Quake III at a resolution of 640-x-480 pixels, with graphics set to Normal. Macworld Lab testing supervised by Gil Loyola.

Jonathan Ive designed the iBook so it could be slapped around a bit. Yet even with these rubber-clad mobile iMacs there are limits — airports, school journeys, being used in the playground as an impromptu football goalpost — all of which could serve to squish your tangerine dream. Enter the space-age e-pac — a carry-case range specially designed for iBook users.

E-pac bags come in two flavours — a distinctly business-like holdall in matte black, and a silver backpack combo that looks as if you're giving a piggyback to Cyberman with no legs. Both are made from tough, highly protective padded nylon, and have been approved for use as airline carry-on luggage.

The black briefcase is the more traditional of the line-up, although I do wonder how many business people use an iBook. It can be carried in three ways: by a rubberized handle — like a briefcase — by a shoulder strap; or with a set of padded rucksack straps, although

the latter felt uncomfortable in use. There's plenty of innovative storage space, too. Not only does it feature two compartments — one for files and notes, the other for the iBook — it also features special pouches designed to house the CD storage wallet, zip-down cushioned work area, penholders, and business card pockets. The zips are lockable, and my iBook felt both snug and secure.

The same can be said of the backpack. Clad in eye-watering silver, although it does come in black, it is docked with a lower bum bag that provides extra room for an AirPort base station, digital camera and other accessories. Yet, while I can see schoolchildren happily using it to cart both iBook and Pokemon stickers to class, its garish-looking exterior will put off adults. And there lies the rub — the backpack itself weighs nearly 3kg — and fully loaded it's a beast to carry, meaning children will be hard-pushed to use it.

Macworld's buying advice

That said, these are innovative, professional stitched together solutions that bring more than protective padding to the party. Tons of storage space, wacky design — remember, that's why you got an iBook in the first place — and impressive build-quality make these bags something you pack-up your troubles in.

Matthew Bath



Space-age cyberpack

**e-pac**  
Manufacturer: e-pac  
[www.epac.uk.com](http://www.epac.uk.com)  
(01559 363 881)

**Pros:** High-quality; robust; tons of storage.  
**Cons:** Part of *Doctor Who* wardrobe; heavy.  
**Price:** Silver or Black 2002 rucksack, £70; Black 2010 briefcase, £55 (both include VAT)  
**Star Rating:** ★★★★★/8.5 (briefcase); 7.5 (rucksack)

■ We have two e-pacs (pictured left) to give away in a special Macworld Online Competition. For details, go to [www.macworld.co.uk/jackpot/](http://www.macworld.co.uk/jackpot/)

Without doubt, PDF is becoming the cross-platform, software-independent file format.

Supported by Adobe InDesign and with import/export XTensions for QuarkXPress, PDFs have finally come of age courtesy of Acrobat 4.0. Within Acrobat, PostScript files can be distilled into PDFs and edited via the numerous third-party plug-ins, two of which are reviewed here. In fact, it's the plug-in nature of Acrobat that's allowing the program to grow, as more and more companies provide features that would otherwise require stand-alone applications.

### pdfToolbox

Starting life as a suite of four pre-press tools for Acrobat 3.0, callas software's pdfToolbox now offers six PDF utilities. The mainstay covers the most important shortcoming of Acrobat itself – the lack of preflighting. pdfInspector offers this to a comprehensive level, yet it's easy to use. A single window shows all relevant problems, such as RGB colours and images, missing fonts, and low-resolution images. A simple click on the problem highlights the fault on-screen. The resulting reports can then be saved and printed.

Anyone creating adverts for transfer to repro for running-out to film – or placement on a QuarkXPress page – will appreciate pdfOutput. It creates EPS files for Mac or PC with all the fonts embedded.

No more missing fonts or images – an almost error-free set-up. Even nicer, version 1.1 includes advanced scaling options to create EPS files to an exact shape and size.

pdfBatchMeister's Distiller-assisting features and pdfCrop&Measure's page cropping are largely redundant within Acrobat 4.0. However, the former can daisy-chain profiles to create, say, a high resolution PDF for computer-to-plate (CTP), and a low-resolution version for uploading to a Web site.

The final tools are new to version 1.1. pdfBatchProcess Pro sets up a sequence of actions involving pdfInspector, pdfBatchMeister, pdfOutput and Quite a Box of Tricks. This allows control over the pre-press side of file handling – from automatic error finding and correction, through to final PDF output. Powerful stuff. And, pdfCropMarks' instant addition of crop and registration marks rounds everything off nicely.

### Quite a Box of Tricks

Quite a Box of Tricks is another suite of tools. It includes the most useful utility of the lot – RGB Gone! This colour converter changes RGB or spot-colour

images/usage to CMYK with any necessary ICC profile applied – essential for press- or print-optimized PDFs. It can also dispose of colour altogether, replacing it with the relevant greyscale shade, and convert all colour text to black – useful if the final output is to a mono laser printer.

If you're told to visit the shrink, don't take it personally. This aptly-named function crunches PDF elements by re-sampling images, and includes a compression facility not found within Distiller, called JPEG extra. A six-page full-colour PDF, destined for a Web site, came down from 556KB to 312KB, a saving of over 40 per cent, with little appreciable change. Cleverly, screenshots can be left uncompressed. Although the manual doesn't go into details as to how the software decides what's a screenshot and what isn't, it does work.

The Transform tool flips, scales and freely rotates PDFs – Acrobat 4.0 can only rotate by 90 degrees – but the real plus is its Thicken Lines feature. Hairlines don't usually output correctly from an imagesetter, here you can set a minimum line-thickness.

As for the final two functions, Info gives you details on any PDF element you click on, while Fields grants control over form fields that can be removed or made part of the document – useful when text has been patched via a form.

### Transverter Pro Plus

While not an Acrobat plug-in, Transverter Pro Plus offers a feature not found within Acrobat – the ability to RIP (convert to a bitmap) a PDF or PostScript Level 2 file, view it on screen and save it in various formats, including TIFF and EPS, at resolutions up to 4,000dpi.

In some respects, this is more important than preflighting, as it shows whether a repro house will be able to handle your files. Once rasterized, it's obvious if any fonts are missing or corrupted, and the log shows warnings from any bad files. Any PostScript file can be passed through the program and converted into a placeable EPS, including the attaching of previews to Mac or PC-originated files.

I've stored a number of dodgy PostScript and PDF files over the past few years – such as embedded RGB images in PDFs, and PC EPSs that Illustrator can't read and XPress won't place – you know the kind. Transverter Pro Plus handled the lot. It can also save a file in Illustrator 3 format, with all embedded images linked, but removed. This is a good way to replace one or two images, or carry out some editing without having access to the originals.



Improved PDF productivity



### pdfToolbox 1.1

**Publisher:** callas software gmbh [www.callas.de](http://www.callas.de)

**Distributor:** Page & Press (020 8998 0080) [www.pageandpress.com](http://www.pageandpress.com)

**Pros:** Good preflighting features; useful all-inclusive EPS creator; powerful batch-processing functions.

**Cons:** Some tools are almost redundant with Acrobat 4.0.

**Price:** £199 (excluding VAT)

**Star Rating:** ★★★★★/8.2

### Quite a Box of Tricks 1.2

**Publisher:** Quite Software (020 8257 1044) [www.quite.com](http://www.quite.com)

**Pros:** Neat, non-modal user interface; powerful colour-correction module; can create smaller PDFs than Adobe Distiller; informative PDF manual.

**Cons:** Short on features.

**Price:** £129 (excluding VAT)

**Star Rating:** ★★★★★/7.8

### Transverter Pro Plus

**Publisher:** TechPool Software [www.techpool.com](http://www.techpool.com)

**Distributor:** Business Presentations (01462 743 090)

**Pros:** Properly tests PDFs and PostScript files; good export facilities; decent paper-based documentation.

**Cons:** Can't view CMYK separations from a composite file.

**Price:** £550 (excluding VAT)

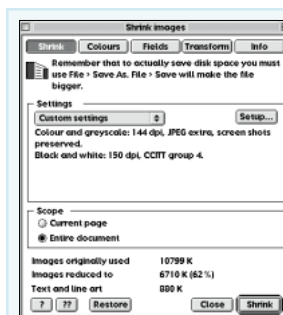
**Star Rating:** ★★★★★/7.7

One feature I'd like to see is the viewing of CMYK separations from a composite file. Knockout and overprint problems are a chief reason for film re-runs, and while an Acrobat plug-in, such as callas software's pdfOutput Pro, can create PostScript separations from a PDF – which can then be viewed here – perhaps the facility should be offered as standard.

### Macworld's buying advice

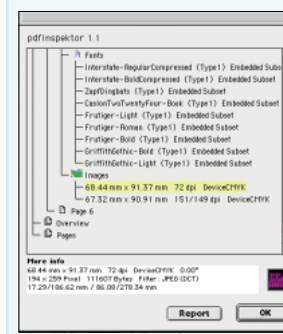
It's a shame that so many Acrobat plug-ins have overlapping features – it would be great to be able to pick-&-choose just particular aspects. Even so, pdfToolbox is a must-have for anyone involved in serious PDF work. The flightcheck aspect works well, and pdfOutput is a boon for anyone handling PDFs from differing sources. The colour correction side of Quite a Box of Tricks is also worthwhile, and has some nice touches, including the text conversion to black for mono printing. However, if you already own Enfocus PitStop/Taylor and Lantana Crackerjack, many of these facilities will be covered. As for Transverter Pro Plus, a user-friendly soft-RIP such as this is invaluable to a professional production or repro facility. See this month's CD for demos.

**Vic Lennard**



#### Flying low

Using Quite a Box of Tricks' Shrink facility, 4MB (almost 40 per cent) was trimmed from the 93-page document (above). pdfInspector (a tool within pdfToolbox) is a useful preflight tool (below). Here it's picked up a 72dpi low-resolution image in a press-optimized PDF.







Civilization in space

## Sid Meier's Alpha Centauri

Publisher: Firaxis

www.firaxis.com

Distributor: Softline  
(020 8401 1234)

**Pros:** Involving gameplay; unlimited replay value; excellent addition to the series.

**Cons:** It's a tad buggy; can be daunting for the newcomer; probe teams.

**Price:** £39.99 (including VAT)

**Star Rating:** ★★★★★/8.9

### Council tax

Win over other factions and rig the vote for the annual planetary council session. Here you can pass measures such as raising the sea level, or starting global trading.



**S**hock troops, orbital attacks, terraforming, nerve-stapling innocent citizens, planet busters and probe teams – if the sound of these makes your heart race, then you'll love Sid Meier's Alpha Centauri. Either that, or you really ought to repeat the mantra "No more *Star Trek* episodes ever" several times a day.

Sid Meier's Alpha Centauri (or SMAC to its friends) is a turn-based strategy game that takes up the conquest reins shortly after the end of *Civilisation II* – with the goal being to colonize a planet in orbit around the game's namesake. You'll find yourself using cunning, lashings of diplomacy, intelligent resource planning, research prowess and – failing those – really huge weapons in your goal

of establishing global dominance and SMACing your rivals around the head.

For fans of *Civ II*, SMAC works exactly the same, only using spacesuits. Start by choosing a faction to control, build a city and start to exploit the planet's resources. As cities grow, you develop other colony pods to send out and settle the planet – including marines and choppers to defend bases, and base facilities to speed research and economic growth.

### It's war

Eventually you're going to run into another faction – and that's where the fun begins. In *Civ II*, each opposing nation has identical goals, but in SMAC factions are ideologically motivated. The Spartans have military superiority on the agenda and Agent Orange in their armoury, while The Lord's Believers have visions of global Sunday services and God in theirs.

All this makes working with, or fighting against, each faction more complex than simply swapping research notes or nuking their bases. Diplomacy and political maneuvering are the key to survival, with you often having to play one faction off against another. Each faction sits on a planetary council, that

meets regularly to vote for a global president, repealing atrocity limits and so on. By working with other factions, or simply beating them into submission, you can gain votes and eventually become Supreme Overlord of the entire shebang.

SMAC is advanced in other areas, too. Instead of simply upgrading your airforce from biplanes to bombers, SMAC lets you painstakingly design each upgrade, choosing weapons, armour and power. The research tree is cool, too, with polymorphic software and nanorobotics to discover – although it takes some getting to grips with. Luckily, the manual is a massive 267-page affair – there are a whole bunch of tutorials to kick-off with, and a poster-size technology chart to help your progress.

### Macworld's buying advice

As with any SMAC-type game, there's always a downer after the high. The graphics are a bit ropery and numerous bugs mean you'll need to download the latest update to enjoy it fully. That said, almost unlimited replay value, an involving story arc, and sheer depth of gameplay make for a gem of a title. Now, I'm a SMAC addict.

**Matthew Bath**



Great sports sim

## Madden 2000

Publisher: EA Sports

www.easports.com

Distributor: Softline  
(01372 726 333)

**Pros:** Great graphics; extensive options; simple but involving gameplay.

**Cons:** Needs at least a blue- & white G3 to really shine.

**Price:** £39.99 (including VAT)

**Star Rating:** ★★★★★/8.2

**M**adden 2000 is a great game – it's got stunning graphics, superb sounds, and good gameplay. Better than the real thing I suspect. "Small boys in the park, hundreds of pounds worth of kit, oxygen masks at the ready." It will never be the stuff of Ron Manager. Give me a Scholes volley, or Dallaglio dragging the Wales team over the line for a try any day any day of the week.

It took me a while to get used to gridiron's rules again – I haven't followed American football since I was teenager – but once I did, Madden 2000 became addictive.

The game options are daunting – there's everything from the standard

practice and game modes, to a quiz – called the Madden Challenge – and you can even sit back and watch the computer play classic games. When playing the multi-season franchise mode, players can also be drafted.

The system requirements aren't too large – Mac OS 7.5 or later, a 180MHz CPU or faster (although the Web site said 200MHz) and 32MB of free RAM.

The graphics are stunning, but at least a blue- & white G3 is needed to get the most out of the game. My pbeige G3 produced some very dodgy results.

### Foolish

I decided to play as the Miami Dolphins, they were my team as kid. As a newcomer to Madden, this was a mistake – I lost and I lost big. After learning my lesson, I changed teams and spent hours practicing. This is vital when getting to grips with the many options and plays – there are 28 playbooks to choose from.

After two hours solid practising, it was time to go and play an exhibition game. I still lost, but by less.

Disheartened, I took my sorry team back for more training. This time I tried to master some of the player moves. These include a pump fake when passing, jumping over opponents, spinning, and the all-important stiff arm. All the moves

are in real-life motion-captured animation, which makes the game look stunning. Combine this with the great sound effects, and I was starting to feel for my poor quarterback when he was sacked for the third straight play. Especially as the linemen are as fat in Madden as they are in real life. The only difference is these virtual "athletes" don't need oxygen after 20 seconds of exertion.

Before I went back for another punishing beating, I checked out the game's customization options – they're almost as extensive as the game-play options. Everything from penalty levels to the weather can be changed. But having done so poorly, I decided allowing other teams to kill my players was a bad idea, and as for trying to contend with snow – coaching suicide.

### Macworld's buying advice

Even when losing, Madden 2000 is highly enjoyable, and kept me coming back for more. I'm about to embark on a full season. I won't make the play-offs, but the variation in gameplay, the stunning graphics, and overall feel will keep me entertained for ages. Now, where's that copy of *USA Today*, I need to get scouting before the draft comes around – there's a good chance I'll get first choice.

**Woody Phillips**

### Hard hitting

Madden 2000's playback function means all those powerful hits can be seen, heard and felt – over and over.





Picture-library creator

## FotoStation 4.0

**Publisher:** eRocket.com  
www.eroCKET.com

**Distributor:** For a distributor list ring (01780 721 001), or see www.fotoware.co.uk.

**Pros:** Speedy; small footprint.

**Cons:** Rough interface; weak search function.

**Price:** £90 (excluding VAT)

**Star Rating:** ★★/6.2

**C**heap scanners and digital cameras – not to mention a world of pictures on the Web – make it easy to amass a huge library of images. If a glut of images is swamping you, eRocket.com's FotoStation 4.0, an image-cataloguing and management application with speedy performance, may be worth a look. Unfortunately, the program's weak search-function and rough interface might make you think twice.

FotoStation's interface consists of a large window for displaying images and a smaller window containing folders for organizing those images. Folders are either aliases or albums – clicking on

an alias displays the contents of a folder as thumbnails, while albums are more like traditional catalogues that organize images by category. However, albums can't be accessed with a single click in the folder window, and can't be added to by drag-&-dropping.

An images thumbnail can be double-clicked to view it at full-screen size, or the image's creator application can be launched from a menu. Some images can also be tagged with standard IPTC (International Press Telecommunications Council) information, and the same text can be applied to a number of images. Unfortunately, not all images can be tagged.

Cataloguing in FotoStation is fast. The program took only three seconds to catalogue a folder of 24 graphics files. Unfortunately, FotoStation catalogues everything in a folder – even files that aren't images. While filters can be defined to exclude certain file types, it's a hassle. And although FotoStation recognizes QuickTime movies, it can't play them.

Interface problems plague FotoStation. Default buttons don't always work, and the menu display is sometimes

buggy. There's one inexcusable feature – if an image's alias is deleted, FotoStation deletes that image from the hard drive with no warning.

If a database is only as useful as its search functions, FotoStation is in trouble. Its shockingly simple Find command offers only two criteria and one condition, either AND or OR. It can't search for a particular file type, can't use wild-card characters, and the program's conditionals don't allow complex searches. Still, at least these limited searches are speedy.

FotoStation includes basic image-editing tools and can create slide shows and simple Web pages. These features are nice, but eRocket.com should concentrate on improving the cataloguing tools.

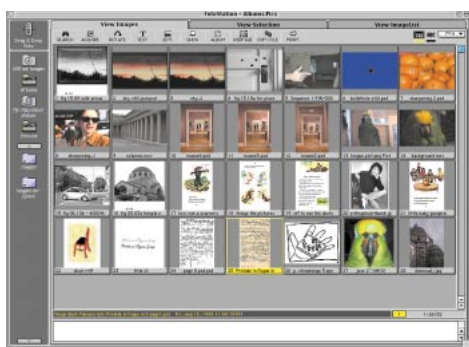
### Macworld's buying advice

FotoStation 4.0's overall design works, but the program's rough interface and pathetic search tool make it frustrating to use. If your image-management needs don't include powerful searches, however, FotoStation might be a good tonic for that media glut.

**Ben Long**

#### Window shopping

Pictures are accessed through a large main window in FotoStation. The pictures can then be organized in a smaller window.



Clip-art goliath

## Art Explosion

**Publisher:** Nova Development  
www.novadevelopment.co.uk

**Pros:** Tons of stuff; decent Web graphics.

**Cons:** Less would have been a whole lot more.

**Price:** £149.95 (excluding VAT)

**Star Rating:** ★★/4.9

**S**ee those Barclays ads on TV, trying to sell you the lie that bigger is better when it comes to banking?

Well, the software equivalent of Barclays Bank has just arrived: Art Explosion 750,000 Images, from Nova Development.

Even with today's sardine-like compression technologies, 750,000 clip-art images is one hell of a lot of pictures to squeeze into one box – although the box is large enough to house a pair of Coco the Clown's gumboots.

Art Explosion's three quarters of a million goodies come on 48 CDs, totalling a whopping 29GB. There's more than 195,000 vector images, 35,000 raster images, 113,000 24-bit colour photos, 8,000 backgrounds, 1,800 fonts, 300,000

Web graphics (buttons, bullets and banners), and 500 Web-ready animations. Somehow, Nova has squashed many of these into double-volume 1,800-page catalogues for easy reference.

While top-quality royalty-free stock photography can border on art, this "premium-quality clip-art" (as Nova dubs it) edges on the ridiculous. Like a drunk wearing make-up, classic clip art can make any newsletter, poster or pamphlet look like a millionth of a dollar.

This mammoth Art Explosion set includes all the old favourites for ruining paper-based publications: rib-ticklingly bad drawings that must rank alongside the worst artistic crimes ever committed by hard-up illustrators and blackmailed

eating accordion; briefcase barbeque; business hippo...

More useful, are the many borders and frames, symbols, shapes and road signs. But the International and Religion sections could summon up a fatwa or slap on the wrists from the politically correct brigade.

Art Explosion's photography is rather sedate in comparison. The quality isn't that spot-on, but the sheer number of images (over 300 birds, nearly 700 aircraft photos, for example) is at least impressive.

### Macworld's buying advice

Yesterday's pamphlet is tomorrow's Web page, so it's the Web graphics that are most likely to tempt the non-artist today. Art Explosion's thousands of animated and still graphic elements offer much to liven up anyone's Web site. Most people aren't going to create their own rollovers or spinning 3D arrows, so the two CDs of Web graphics represent real worth – although Nova's £29.95 Web Explosion 20,000 is better value.

Like Barclays' play on big, Art Explosion's giant claim means little. If most of what you offer is unusable, what's the point? £149.95 for 48 CDs seems a bargain, but even at 0.02p per image, the value is stained by the heaps of junk. Try the smaller sets for size first.

**Simon Jary**

#### Chamber of horrors

Art Explosion's vector art is the usual mixture of the useful (left) and not so useful (right). The volume of images means an appropriate illustration for your needs should be somewhere in this collection – for example, there's enough chairs for a Mooney wedding reception. How many lightbulbs does it take to fill a catalogue page? 132 to be precise.







Big-league laser printer

## Phaser 750

**Manufacturer:** Tektronix-Xerox  
(0870 241 3245)

**Pros:** Clean, simple set-up; fast output.

**Cons:** The manual is a PDF – very inconvenient.

**Price:** From £1,966 (excluding VAT)

**Star Rating:** ★★★★★/8.8

Xerox is marketing its latest printer, from the recently acquired Tektronix stable, as easy-to-use. After numerous skirmishes with the great hulking beasts that are office laser printers, I wondered if the Phaser 750 would live up to this promise. I'm pleased to say it did.

The 750 has been released as the bigger brother of the excellent Phaser 740. At first glance there doesn't seem to be much that's new. The engine is the same as the 740, and, unsurprisingly, performs just as well with 16ppm colour and 5ppm mono output. There are optional paper trays available, extendible memory, PostScript Level 3, and all the other bells-and-whistles you'd expect. What is included in this incarnation is

a bump up to true 1,200-x-1,200dpi resolution,



a meatier 200MHz controller-chip and 10/100Base-T ethernet as standard. Oh, and all models in the range are colour – unlike the 740 series. Installation was a sinch, with understandable instructions, simple slot-loading toner, and a straight forward driver.

### One small step

These little additions push the 750 Series ahead of the 740 Series, but not by much. The benefits from these improvements are likely to make a difference only in a heavy-duty environment. The 100Base-T counts here, but the loss of SCSI may be a disadvantage that the new USB cannot compensate for. It's claimed that the 200MHz processor will allow for up to twice the throughput of other lasers. Frankly, I'm a little sceptical. The 750 certainly compares very well on speed at least. Just as well, as the 740 manages to get by on a 133MHz chip.

However, Xerox has an ace up its sleeve in the form of productivity software. Dull, I know, but the subtle improvements take the 750 into the big league. There are a range of utilities supplied with the 750, from a one-step installer, which makes it even easier to set-up, to the PhaserPort utility that allows TCP/IP networking, yielding faster data transfer – and therefore faster printing – than AppleTalk. The gem is

PhaserLink, a Web-based printer management with a consumables-update that the printer emails to you. There is even a smart power-management mode, called Intelligent Ready, which learns the daily cycle of the office. Considerately, the printer will wake itself up to be all warm, cuddly and ready-to-go when you arrive at work. Just what you've always wanted – hardware that expects you to be punctual and mails you when it wants to moan.

The print quality is excellent for a laser, though the difference the boosted resolution will make to anything is questionable. You will still need an ink-jet for true photo printing, and the plain-paper output is far short of this mark. However, on special laser paper you get an impressive image with good blends and incredible sharpness. Colours are strong and solid even on transparencies, but there is inevitable graininess due to the laser technology.

### Macworld's buying advice

The 750 will be a leading example in its class. Compact and clean, with easy-to-use features, this printer is ideal for a serious office. No one need fear the monster laser printer again – unless it starts emailing your boss when you're late for work.

**Seth Havens**



Photocopier and printer

## AR-C150/ Fiery RIP

**Manufacturer:** Sharp/Fiery  
(0800 262 958)

**Pros:** Fast and accurate colour prints; photocopies.

**Cons:** Expensive; only suitable for very busy studios or offices.

**Price:** AR-C150, £14,995; Fiery RIP, £9,995 (both exclude VAT).

**Star Rating:** ★★★★★/7.2

Sharp has entered the Macintosh-printing world with a fantastic A3 colour-laser printer, that is also an A3 colour-copier. The addition makes for a good, but expensive proofing, printing and copying solution.

Traditionally, photocopiers and colour-laser printers have been sold in different ways. Photocopiers have been leased, while printers have been bought outright. This is because Office managers tend to be in charge of photocopiers, while IT managers take care of printers.

Photocopiers aren't cheap. Leasing allows more regular upgrades and a simpler support contract. Buying a photocopier can be cheaper in the long run, but if there's a problem it can be costly to fix. The Sharp printer and copier is available by both methods.

### Improved

The copier's features are simple to use and give consistent results. There is some degradation on the copy, but, compared to old mono-copiers, the quality is fantastic. The colours were close, but not exactly the same as the original. This is fine for office documents, but printing is a different matter. Company logos need to be the right colour every time, so the

colour accuracy is good on the printing side of things.

The high-end printing features and colour management are thanks to the Fiery RIP. You can elect to save documents to print later. For example, a company handbook, or an often used presentation, can be left on the RIP. Then, when another copy is needed, it can be printed quickly without RIPping the file again. The printer is capable of 15 A4 pages per minute (ppm) in full colour, or 25-ppm in monochrome.

### Macworld's buying advice

The AR-C150 and its companion RIP do a great job of printing and copying. It is fast and easy to use, just like a copier should be. There are some quirks that you wouldn't expect to find in a modern colour laser printer, such as the loose toner for refills. It isn't as messy as it sounds, but it's not as straightforward as cartridges. It is, however, much cheaper than cartridge systems.

The only problem with the whole set-up is the price. At £25,000, it's a huge investment.

Frankly, there are cheaper ways to achieve a similar goal. Most colour printer manufacturers offer a scanner attachment, for simple copying, at a fraction of the price. You don't get the whole printer copier in one convenient piece, and you miss out on any kind of fancy copying features, but this option can save £15,000 or more. Professional copy shops seem the ideal setting for a machine like this. Though it would be nice to have, it's a luxury few companies will be able to afford.

**David Fanning**



**T**raditional project-management software is useful for planning jobs and making sure everything will be ready on time. Unfortunately, these packages seldom track the fine points – such as submittals, changed orders, and correspondence – crucial to a project's success. AEC Software's Details 3.0.1, a specialized database for small to medium-size graphic design, publishing, contracting, architecture, and manufacturing businesses, can help ensure that essential project information doesn't slip through the cracks.

Many professionals build FileMaker Pro databases or Microsoft Excel spreadsheets to record the specifics of their projects, but using Details 3.0.1 is easier than creating custom databases or spreadsheets.

First, the program's 70-plus specialized templates get you working quickly. These files contain preformatted fields, reports, and forms for project activities – expense reports, approvals, and phone logs, for example. And several Details field types, such as Task Duration, aren't available in generic databases. As a result, Details' reports can include familiar project-management timeline graphs.

### Top of the form

Modifying existing forms is aided by the new Forms function, as is designing new forms. Although forms are central to any good database, customizing Details' forms is especially easy. Intuitive drawing and properties palettes allow fields to be drag-&-dropped, graphics placed, and selections made. This feature also creates electronic replicas of traditional paper

forms, and cuts costs by printing documents on demand.

Usability features abound in Details 3.0.1. For instance, if none of the supplied templates hit the spot, new files can be built quickly. Simply define the fields, and then set-up a report by selecting the fields needed. There's no need to understand the relationships between fields, records, index files and other typical complexities.

Nevertheless, Details 3.0.1 doesn't skimp on expected database functionality, such as storing pre-set values for fields and drop-down lists. The application goes beyond typical databases, by including three specialized field types – Contact, Project Log, and Submittal Log – for which the necessary sub-fields have already been defined.

A case in point: the Contact field contains address and phone-number place-holders. This thoughtful feature saves time when creating a database – and makes certain that users don't miss entering important facts, since related information is grouped in a single spot.

Like a good project manager, Details offers a work calendar that accommodates shifts, weekends, holidays, and vacations. Consequently, the program accurately calculates the time needed to complete a job.

Professionals and support staff shouldn't have any trouble using Details 3.0.1. Data can be entered and edited, either in forms or in the cells of a report. The displays are uncluttered, offering Navigation, Views, and Reports palettes that make it easy to shift among the screens.



Project-information tracker

## Details 3.0.1

**Publisher:** AEC Software [www.aecsoft.com](http://www.aecsoft.com)

**Distributor:** Primex Synergy (01980 652 025)

**Pros:** Custom forms; easy report building; supports multiple users.

**Cons:** Awkward integration with other applications.

**Price:** £189 (excluding VAT)

**Star Rating:** ★★★★★/8.4

Details' pre-made reports will be all most users need. For example, the Project Log format lets multiple tasks, dates, and durations for each record in a database be stored, and reports can be made. When used with the timeline graph, the Project Log is a powerful scheduling tool that works much like a standard project manager's outliner or Gantt bar chart.

If creating or customizing a report seems too much trouble, simply choose the fields you want to see, specify their order, define the search criteria, and decide whether dates should appear as a graph. Unlimited report formats can be stored for each Details database.

Another helpful feature, Generator, constantly monitors the database. This means report listings are always up to date after new data is entered.

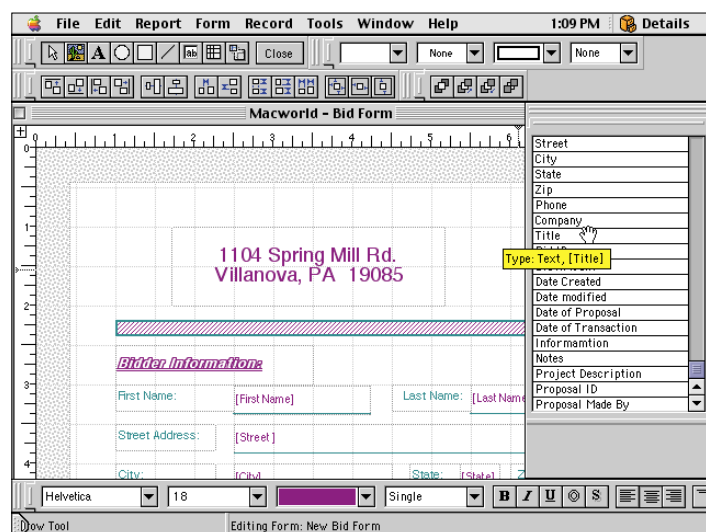
High-quality forms and reports can be printed, or used in presentations. However, Details saves a report as one large image (in JPEG, TIFF, PNG, or PICT format), making emailing reports, or posting them on a Web site, inefficient. A better approach would be to save reports as HTML files.

Another area in need of improvement is Details' data import and export. Although the program can exchange information with other applications through ASCII text files, it would save novices a lot of headaches if Details included file-import and -export compatibility with common project-management software – such as AEC's SureTrack, or Microsoft Project.

### Macworld's buying advice

Details 3.0.1 offers several benefits for professional managers. Little experience is needed for database set-up, use, and reporting, and the program offers project-specific functions that aren't found in other database software. It would be helpful if Details could exchange data more easily with traditional project managers, and had more-sophisticated Web-based reporting. Overall, though, Details 3.0.1 stops costly mistakes because of lost project information – without requiring a significant time or financial commitment.

**Mike Heck**



### More than functional

*Details 3.0.1's Forms Designer helps you create high-quality forms that contain just the information you need to collect.*



**H**andheld computers have always suffered from a difficulty in data entry. From the ill-fated Newton to the most recent Palm OS systems, handwriting input is not suitable for writing much more than addresses or notes. And, keyboard-based systems such as the Psion don't have a large enough keyboard. But now you can have the best of both worlds with the Stowaway keyboard. Designed for the Handspring Visor, the Stowaway is also available for Palm models, but branded as a Palm keyboard.

### Compact

The Stowaway keyboard measures just 3.6-x-5.1-x-0.8-inches closed, but it opens out to 13.8-x-5.1-x-0.4-inches when open. The key spacing is the same as a normal desktop keyboard, and it feels like a PowerBook keyboard to use. No batteries are needed, just the power from the Visor. The consumption is so low I didn't notice



the batteries running down any faster than usual.

A minor flaw is that the keyboard lies flat, unlike an angled desktop keyboard. However, it's still a million times better than trying to write a long document using a stylus (the pen that comes with Handsprings and Palms). It has function keys for easy access to the standard Palm applications, such as the To Do list or Memo Pad, so you don't usually need to use the stylus, though there is a resting-place for the stylus if you need it.

The practicality of the keyboard is undeniable, but that is almost secondary to its head-turning ability to spring from its folded position to a full keyboard. The keyboard is in four, joined pieces, so when you crack open the case it folds out concertina-style. Then the left and right sides slide in to lock it in position. Last of all, a rest for your PDA (Personal Digital Assistant) slides out of the top. This can be done in two or three seconds, and I guarantee you will spend the first week of owning a Stowaway keyboard demonstrating it to amazed friends and co-workers. It is the kind of gadget James Bond would be proud of – despite its lack of firepower. It's functional, but the design is so appealing I would be surprised if it failed to appear in a design museum before long.

### Macworld's buying advice

There have been a few attempts at improving hand-writing software. Graffiti works well for notes, but it just can't replace a good keyboard. This is a great keyboard, conversation piece and all-around nifty gadget. The usual problem with gadgets is they seem like a good idea, but end up in the bottom of a drawer. Also, they're often expensive and difficult to justify. If you have a Visor you'll use this keyboard all the time, and the price is just £69. That should be cheap enough to buy and claim it on your expenses later. I can unreservedly recommend everybody buy one immediately.

David Fanning



**Enter** Fold-a-way keyboard

### Stowaway

**Manufacturer:** Targus  
(020 8607 7000)

**Pros:** Functional, practical and beautiful.

**Cons:** It only comes in black.

**Price:** £69 (including VAT)

**Star Rating:** ★★★★★/9.4

**W**hen I first heard about SimCity for the Palm OS, I thought it was the dumbest thing ever.

How could a game that easily occupies a 21-inch screen be any good on a 3.4-inch screen. Even if it was playable, why on earth would you want to?

Despite my reservations, I tried it anyway. To my surprise, it actually works. Not in the same way as SimCity 3000, it's actually SimCity Classic – the original version. The company that ported SimCity to the Palm, Atelier, worked with the original developers to make the game as similar as possible to the Classic version.

### Power games

For those who've not seen the first version of SimCity, it puts you in control of a virtual town. The city and residents must be kept happy. Taxes must be reasonable, or the population leaves town. Transport, power, policing and other city essentials must also be managed to keep the populous sweet.

Once a city is established, it needs to be watched and tended to make it grow. This takes time and patience, as each element needs careful consideration.

SimCity turns Palms into Tamagochis for adults. They will be banned in

meetings, because of concerned execs fiddling with tax rates in their virtual cities.

The game is simpler than SimCity 3000, the zone squares are just squares, as opposed to click-&-drag areas. This is because operating with a stylus isn't quite as accurate as a mouse. Building roads is a little tricky, and I built a couple of unwanted roundabouts due to stylus misfires – though this happens with the full version, too. Taxing is more simple than SimCity 3000, so there is a single tax rate rather than industrial, commercial and income taxes. Also, zoning is all the same density, whereas the full version offers high- or low-density zones.

It is understandable that some things had to be trimmed to fit into a paltry 224K. But, nothing serious is missing. There is still the possibility of disasters, including everything from tornadoes to monster attack. There is also a chance of insurrection from unsatisfied citizens. Terraforming isn't available, but it doesn't affect game-play badly.

Other thoughtful games for the Palm platform would be nice. Tetris and Breakout are fine for a while, but something a little more cerebral makes playing more fun. Perhaps Civilization could make it to the Palm OS.

### Macworld's buying advice

If a Palm device is just a work tool, this isn't for you – unless of course you're a town planner. But on long flights, or even train journeys, this could ease boredom for hours. Beware though, it is extremely addictive and can be hazardous to work. SimCity is downloadable from the Atelier Web site ([www.ateliersoftware.com](http://www.ateliersoftware.com)) for \$29.95 (a little under £20). This includes the colour version for the Palm IIIc.

David Fanning

**Work-stopping game**

### SimCity for Palm

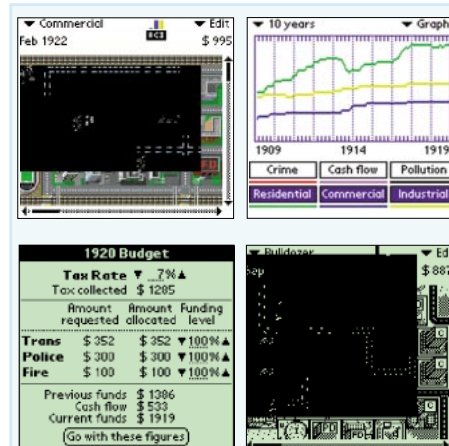
**Publisher:** Atelier  
[www.ateliersoftware.com](http://www.ateliersoftware.com)

**Pros:** It can while-away hours of spare time; quite addictive.

**Cons:** It will eat away at time that isn't really spare.

**Price:** \$29.95 from Web site

**Star Rating:** ★★★★★/7.6



**Palm of your hand**  
SimCity's residents will be only happy if the commercial zones can grow (top left), the tax rate is reasonable (bottom left), the demographic statistics show an upward trend (top right) and any redeveloping meets their needs (bottom right). Otherwise it's riot time.

**W**ith the growing popularity of digital cameras, consumers need an easy way to correct photos. If the software bundled with a camera can't do the job, consider Q-Research's PhotoGenetics, a cheap stand-alone program that makes it easy to fix common problems, such as red-eye.

The program is available as a \$30 download. Q-Research also offers PlusPak, a \$30 set of optional add-ons to download.

PhotoGenetics doesn't try to be another Adobe Photoshop – there's none of Photoshop's extensive artistic and production tools here. PhotoGenetics focuses on fixing everyday digital-imaging problems – although it can be used to add some artistic flair. In fact, the program almost goes too far in distancing itself from Photoshop. For example, its genotypes are just filters with a cryptic new name.

The interface is simple, displaying an original image in a large main window, with easily identifiable buttons on the side for cropping, rotation, printing, and help. When you click on the Start Evolution button, the program displays

modified versions of the image in a window that appears on the right.

The Genotypes palette lets you pick from 15 image filters that adjust the image.

With each change, you rate the modified image from no better or worse, to a little better or excellent. At any point, images can be saved as a TIFF, JPEG, or Photoshop file.

In addition to making adjustments through the Genotypes palette, you can also change the image's colour temperature, making it appear hotter – toward the red end of the spectrum – or cooler – toward the blue.

Along with performing basic image-correction functions, the genotypes can also produce X-ray and colourizing effects. And the Dewarp genotype removes the distortion caused by a wide-angle lens.

As a genotype is applied, you can adjust its intensity and save the setting as a new genotype. The PlusPak includes additional genotypes for enhancing specific colours, correcting lens distortions, and producing other effects.

Although the program's interactive

image-correction functions are geared toward modifying images one at a time, it includes a batch-processing mode that can correct a whole folder of images with one keystroke.

### Macworld's buying advice

PhotoGenetics targets consumers, but some graphic designers or photographers may find it a handy tool for performing quick changes on an image without launching Photoshop. Considering its light price tag, this simple one-trick pony is certainly worth trying out.

**Andrew Shalat**



### Compare and contrast

*As the image on the right is adjusted, it can be compared to the original on the left.*

**D**evelopers are rushing to market with inexpensive photo-editing programs for consumers (see PhotoGenetics review above). Binuscan, best known for high-end scanning software, has joined the fray with Watch & Smile 1.0, a cheap package that combines image-editing, digital video, and multimedia functions.

The program packs some impressive features – including photo-retouching tools – derived from the company's professional software. Unfortunately, Watch & Smile suffers from a poorly conceived interface that violates Macintosh software conventions.

Watch & Smile is loosely based on a television metaphor. When the program is launched, a video of a TV monitor takes over the screen – just click on that monitor's on/off button to enter the Watch & Smile workspace. At the top of the workspace is a scrollable-horizontal film-strip that can contain as many as 255 frames.

Each scene can hold multiple images, text, or videos – and a soundtrack can be recorded from an audio CD or the Mac's built-in microphone. When the job is completed, the frames can be exported individually or as QuickTime movies complete with transitions.

Watch & Smile offers a huge array of photo-retouching features. Brightness, contrast, saturation, and sharpening can

be adjusted using a paint tool or global slider controls. Brightness can be modified over the entire image, or within red, green, or blue colour channels.

The program also includes an auto-correction tool for enhancing low-quality images, a clone tool, similar to Adobe Photoshop's, for reproducing one part of an image in another, a pen tool for making clipping paths, and tools that add warping and perspective effects to images.

Watch & Smile's multimedia features, while somewhat limited, offer nearly everything you need to create simple movies. Scenes can be moved and copied, the display time set for each frame, and a variety of transition effects are available. Movies can be tested using a VCR-like controller at the bottom of the screen.

Although Watch & Smile sports a hefty feature set, users may find the proprietary interface – which relies heavily on cryptic icons – incredibly frustrating. Even fans of MetaCreations' wild-looking interface designs will likely find this program goes too far in sacrificing function for style. It not only takes over your Mac, but also won't even let you switch to the Finder without quitting the program.

Forget about using any Mac-standard keyboard shortcuts – if  $\mathbb{Z}$  is pressed to undo an operation or  $\mathbb{Q}$  to quit, nothing happens. Exiting the program is

an especially frustrating endeavour – when one on/off button is clicked, a separate screen with a different on/off control appears. This finally lets you quit. Also, the program lacks any rollover tool tips, and has few text labels to offer clues about a control's functions.

### Macworld's buying advice

Considering its price, Watch & Smile offers an impressive array of photo-retouching and multimedia features. However, the interface will frustrate many users as they try to take advantage of those features. The most glaring omission is the inability to switch to other applications while using the program – it literally takes over a Mac until the application is quit. We also found performance sluggish, even on a 333MHz G3 system.

**Stephen Beale**



### Out of control

*Watch & Smile has some great features, including the photo-retouching tools, but its unintuitive interface and lack of support for keyboard shortcuts make it difficult to control.*



Home multimedia

## Watch & Smile

**Publisher:** Binuscan

[www.binuscan.com](http://www.binuscan.com)

**Distributor:** IMC

(01344 871 329)

**Pros:** Affordable; extensive photo-retouching and multimedia features.

**Cons:** Slow performance; poorly designed interface.

**Price:** £49 (including VAT)

**Star Rating:** ★★☆☆/5.5





ISDN-transfer software

## Grand Central Pro 2.0

**Publisher:** Hermstedt  
(020 7242 4060)

**Pros:** Job Ticketing; FTP Server; ISDN compression; unparalleled compatibility.

**Cons:** You won't get compression connecting to a non-Hermstedt ISDN card.

**Price:** £299 (excluding VAT)

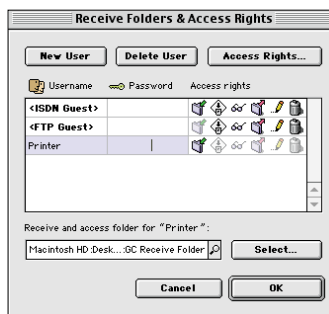
**Star Rating:** ★★★★★/9.0

A few years ago the ISDN market was a minefield, riddled with incompatible protocols, hardware and languages. Gradually the UK market has become less fraught with inconsistencies. When 4-Sight succumbed to the Wam!Net take-over, one of the two main UK protocols became a proprietary network. Still, in the rest of Europe and around the world, different protocols are used.

### Relax

If this scares you, don't worry – Hermstedt has just released Grand Central Pro 2.0, an ISDN file-transfer software that can talk in any language. This isn't a new feature for GC Pro, but it is the one thing that makes it a must-have for ISDN transfers. The French Easy Transfer protocol is available, as is the European standard Télédisque, and even Hermstedt's old adversary ISDN Manager is catered for.

The interface has been improved, so it



### No problem

Setting up receive folders is easier than ever.

is less complex to set up and easier to use. There are now hot folders that can be set-up to send their contents automatically. This also allows people to send files from other machines on the network. It isn't the same as having Grand Central on your machine, but it's simpler to use.

A real bonus for users of Hermstedt ISDN cards is on-the-fly compression. It only works with a Hermstedt card and GC Pro at each end, but it speeds things up no end. A status window shows how fast data is being transferred. The screenshot (left) shows a transfer rate of 1,436Kbps over a two-channel connection. Normally, a two-channel connection would top-out at 128Kbps. The compression rates vary, depending

on the file being transferred. Files such as JPEG or compressed TIFF files don't reduce much, but files, such as QuarkXPress pages go at least twice as fast with the compression.

One of the factors that other systems like Wam!Net have over the more open standards like Grand Central is job tracking. While this isn't really feasible with an open system, Hermstedt has included etf JobTicket. This means a page from XPress or InDesign, for example, can be sent with a ticket that tracks changes and additions to the file – smoothing the workflow and lessening the chances of misunderstandings.

Sending files has always been fairly straightforward, but now GC Pro can pull files from a remote server. Different folders can be set-up with password protection for different clients. Another addition to GC Pro is an FTP Server. Previous versions had an FTP client, but the server allows hosting of files for Internet access or private client connections.

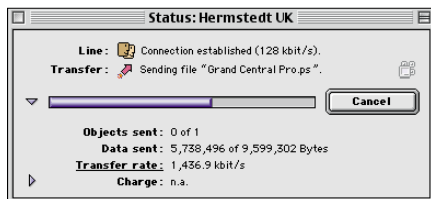
### Macworld's buying advice

Hermstedt has done a great job of updating an already fine application. If you need compatibility, compression and ease of use for an ISDN connection, there is nothing better than Grand Central Pro.

**David Fanning**

### Speedy

GC Pro's compression utility means with only 128K of bandwidth you can transfer files more than ten times faster than normal.



Synthesizer emulator

## Pro-Five

**Publisher:** Native Instruments  
www.native-instruments.com

**Distributor:** Arbiter  
(01753 653 322)

**Pros:** Extremely realistic simulation of this classic instrument.

**Cons:** Weird copy-protection method.

**Price:** £149 (including VAT)

**Star Rating:** ★★★★★/8.5



### '80s sound

Pro-Five emulates the classic Prophet synthesizer of the 1980s, it comes with full-MIDI support.

For most of the 1980s, the Prophet 5 synthesizer was my dream instrument – but always just out of reach financially. Now I have one which features MIDI automation of all the parameters, plugs in to Cubase VST, and has all the original pre-set sounds, plus a bunch of great new sounds – all on my Mac.

The Native Instruments Pro-Five software synthesizer is a full-blown emulation of the classic Prophet 5 synthesizer, right down to the colour of the wooden casing. And, unlike the original, it's not restricted to just five notes of polyphony – you can play as

many notes at the same time as your CPU will allow. On a Power Mac 9500 with a G3/300MHz upgrade card installed, I could play 12 notes at once with no problems. The voices display let me set the number of playable notes up to the maximum of 32, but when I tried a glissando on any more than 12 notes, they started glitching. Still, this is more notes than you could get out of a pair of original Prophet 5s.

Designed by Native Instruments, known for their Reaktor and Generator software synthesizers, the Pro-Five has eight files, each containing eight banks, with every bank containing eight pre-sets

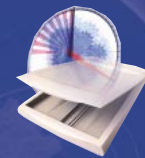
to provide a total of 512 programs. Unlike the original, the Pro-Five also responds to MIDI Velocity messages, which you can use to control the filter and output levels according to how fast the keys are struck.

What I missed, badly, was the intimate control of the knobs and buttons on the real thing. The default way the knobs work is by pointing at the them and dragging the mouse vertically. I prefer the way the knobs work in Cubase – where you drag them to the right or left, which feels more like a real machine. Fortunately, by shift-clicking on the NI logo changes the action to this mode. This is a thoughtful touch.

### Macworld's buying advice

So what could be better than a Pro-Five? A bunch of them. And, that's no problem. Simply launch multiple instances of the Pro-Five instrument – each with its own stereo output feeding into Cubase's mixer channels. Or, try Steinberg's Model E virtual analogue synth for VST, which is more or less a simulation of the classic Mini-Moog. Although you won't get the 'wirier' clavinet and 'lusher' string sounds to be found on the Pro-Five, it's a bargain.

**Mike Collins**



# Scandabbidozi

Entry-level scanners really can fit any budget these days — and they're good, too.

By David Fanning



Four years ago, entry-level scanners weighed-in at around £1,000. Now, a grand will get you a capable mid-range scanner, while entry-level scanners have plummeted in price to less than £150. Here, we take a look at a complete cross-section of low-end models, including one for just £49. Such low prices can be misleading, because it doesn't mean these machines are one-trick ponies: they can be used for more than just low-resolution scans for the Web. In some instances, a budget scanner may offer enough quality for scanning images for publication in a glossy magazine.

All the scanners tested here are USB based. Only one will work with older SCSI-based Macs.

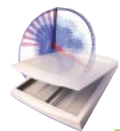
There are a number of key criteria to consider when looking for a low-end scanner. Resolution is one. Previously, manufacturers would claim outrageous resolution capability — relating to interpolated resolution. Interpolation is a mathematical algorithm used to calculate extra pixels. It takes two pixels, makes an average of their colour and brightness, and inserts an extra pixel in the middle.

Changing resolution in Adobe Photoshop does a similar thing — but having extra interpolated-resolution built into scanning software is of little use. Quality is no better, and, if printing on an ink-jet, it's better letting the printer software take care of low-resolution files.

One of the reasons scanners have dropped so drastically in price is the

page 74





# 1 Scan at the scanner's optical resolution, or a multiple of it.

Scanners have a row of CCDs (charge couple devices) that are passed under an image. If there are 600 of them to every inch, then scan at that resolution. If you want to scan for the Web – normally 72dpi – you will get better results by scanning at 100dpi. This is because scanning at 100dpi uses every sixth CCD, but at 72dpi, scans use every eighth or ninth CCD. Scans set to use regularly spaced CCDs produce a more even result. The resolution can then be reduced in Adobe Photoshop.

# 2 Scan to the resolution of your output device.

If you're going to print at 600dpi, then scan at 600dpi. Again, try not to use numbers that don't divide into the optical resolution. If the printer wants

to print at 1,440dpi, scanning at 1,400dpi will give more even results.

# 3 Save image in an uncompressed format.

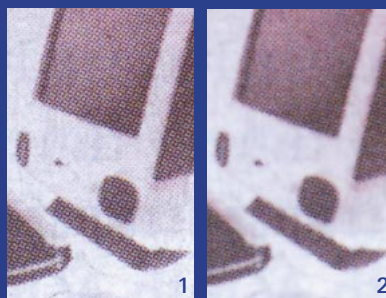
If you need to save an image in a compressed format such as JPEG, make any adjustments first. Save the image as a TIFF or a Photoshop file while making adjustments, then compress the end result. If you JPEG an image more than once, image quality degrades quickly.

# 4 If you need a mono image from a colour original, still scan in colour and print in monochrome.

If you are scanning a colour image to print in monochrome, this will improve the quality. It also gives you more control over the way the mode change is done.

# 5 Avoid scanning printed photographs.

Avoid scanning images from magazines and newspapers, because your images will be ruined by a moiré patterning (1) – a kind of visual interference. You can reduce this effect by using a de-speckle filter in Photoshop (2), but this can blur the image. The effect is caused because print images are made up from dots, and scanners scan in dots per inch.



## Microtek ScanWizard

ScanWizard offers two different levels of software in one package. The advanced window (above) gives detailed control over all aspects of scanning. The standard interface (below) gives a more simple interface for control.



emergence of the Universal Serial Bus (USB) connectivity standard. When SCSI was the standard interface for scanners, low-end models were rarely affordable for domestic computer users. SCSI made scanners more bulky, and added to the price. USB requires less space, and the abundance of USB devices (printers, scanners, etc) mean components are now a lot less expensive. Although USB is powered by just 500 milliamps, this is easily enough to drive a small scanner. Some manufacturers still offer an external power supply as an option. Again, costs are kept to a minimum.

Keeping the power supply outside of the scanner has heralded some ultra-thin models, particularly from Canon and Artec.

Most budget scanners look pretty much the same and boast the same technical specifications. So the best way to choose between them is to examine the software that comes with them. It's the bundled software that makes or breaks a scanner's usability. Some manufacturers scrimp on software to keep prices down. Because consumers of low-end scanners are unlikely to have high-end image-editing software such as Adobe Photoshop, a decent image-editing package is all important.

Of the image-editing packages included, Adobe PhotoDeluxe shines as the best consumer program. It isn't as powerful as Photoshop, but for most people it has a decent mixture of serious image-correction features and fun-output options.

Many offices often buy low-end scanners for Optical Character Recognition (OCR) duties. With an OCR program – such as OmniPage or TextBridge – text is scanned and converted by the computer into editable text. Faxes, magazine pages and other printed documents can be transferred to

a word processor – even if different fonts and font sizes are used. These scanners can be surprisingly versatile.

One new feature that has cropped up on some models is direct scan-to-print. This is a true marvel that turns your printer into a colour copier, for a fraction of the cost of a real copier. It might well be slower, but a colour copier with network printing can cost up to £25,000, while – by adding a printer – you can get similar functionality for under £400. Although nowhere near as advanced as a colour copier, you do have the added convenience of having all your kit at hand on your desktop. To top things off, quality is at least as good, if not better, than a copier.

Many offices also buy low-end scanners for positioning images in page-layout programs. All the models reviewed here are capable of scanning at least 600 dots per inch (dpi), they could be used for more than just positionals.

When a page is run-out on a printing press it's from a file of rarely more than 300dpi. Entry-level models are more than capable of 300dpi – so resolution is not an issue. What they can't do is give the quality of image that a mid- or high-end scanner can achieve. It isn't just resolution that makes a scanner good enough for professional printing.

Ironically, home printing does require greater resolution – because an ink-jet printer typically requires between 600dpi and 1,400dpi to make an image on paper. The higher the dots-per-inch resolution, the less actual dots you'll notice on your printed page.

More and more designers are now working on the Web rather than print.

**Manufacturer:** Umax  
**Model:** Astra 2200SU  
**Resolution:** 600-x-1,200 dpi  
**Software:** PhotoDeluxe, Caere OmniPage LE, Presto! PageType, VistaScan.  
**Price:** £149, inc VAT  
**Contact:** IMC Sales  
**Telephone:** 01344 871 329  
**URL:** www.umax.co.uk

**Star Rating** ★★★★★/9.1



## Umax Astra 2200SU

For a long time, Umax has been a major player in the mid- to high-end scanner market. It's with this knowledge that it has produced the Astra 2200SU, which is at the semi-pro end of the entry-level market. It has a mixture of features that simply can't be found on any other low-end scanner. It combines conveniences such as direct-to-printer scanning with transparency scanning, and has something for everyone.

On the front of the case are three buttons: one to simply scan, one to scan to a printer, and one to scan to a chosen application, such as Outlook Express or Word. Just press the button and sit back. This takes all the pain out of scanning – a luxury indeed. The software included is all best-of-breed stuff. For image-editing and making cards there's Adobe PhotoDeluxe. For OCR, there's OmniPage LE, giving fast and accurate editable-text rendering from scanned pages. Finally, Presto Page Manager helps automate scanning and related applications.

Professional users often need to scan transparencies, but your average cheap scanner doesn't have this capability. Fortunately, the Astra is no average scanner – it offers a transparency unit as standard. It's smaller than a normal adaptor, but big enough to scan a 4-x-5-inch image.

It makes the Astra 2200SU bigger than the other scanners on test here. The nice thing is it's included as standard; with other scanners it's mostly available as an add-on.

Connectivity is well taken care of, with both USB and SCSI available. This means you needn't hold back from buying it until you get a USB-equipped Mac.

There have been reported problems on iMacs caused by the USB drivers in VistaScan, the scanning software that comes with the 2200SU. To resolve this, start with Extensions off after installing the software (hold down the Shift key when booting) and then go into the Control Strip Module within the System folder. Now move "VSControlStrip" to the Wastebasket and restart.

## Macworld's buying advice

If ever a scanner had everything, then this is it. From the software collection to the single-button scanning, it's ideal for the more discerning home or office user. The quality of the scanned images is also top of the group. The icing on the cake, though, is its transparency capability, making it a must-have for designers. Even though it brushes the top-end of the category as far as price goes, it's worth every penny.



### Wise move

Agfa ScanWise was the easiest bundled software to use.

■ In May's video-camera feature we incorrectly described the Sony DCR PC3E as a DV in and out model. It is, in fact, DV-out only. This can be remedied by using the DV Widget 2 (£75 ex. VAT; Datavision, 01525 406 886). We apologise for any inconvenience and extra expense our error may have caused.

This means the highest resolution required is just 72dpi – that's all your screen can display. Colour accuracy is still important for Web work, but not as critical as it is for print. Many monitors used to view the Internet will be uncalibrated, so achieving consistent colour isn't a possibility. This means even the lowest-end scanner is capable of performing professional Web publishing work.

## Macworld's buying advice

The quality of most of the scanners was high, especially considering the price range. The only scanner that fell below par was the Artec Ultima 2000, which suffered from some streaky artefacts. The Microtek, Umax and Agfa shined, due mostly to good software. Useful software enables even an average scanner to create good scans.

Ease of use is important in this price range, as many users will be new to scanning. It's easy to confound novices with

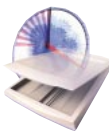
too many choices, though too few choices can annoy more experienced users. Microtek has the best solution to this problem, with two entirely different interfaces to its scanning software. One is designed for simplicity, the other loaded with adjustable parameters for more confident users.

The models that offered access to software applications from physical buttons scored extra usability points – if they worked. Single-button scanning can save time and simplify the process of scanning, but not all lived up to their billing.

All the scanners tested offer an inexpensive way to input images to a Mac. You can't argue with prices as low as £49. The software alone is probably worth that much. Just a little extra money buys you many more features, with the ultimate model being the Umax Astra 2200U. This sports a transparency (slide) adaptor that's ideal for professionals and novices alike.

Scanner reviews from page 78 ▶





design

breakdown

specs

design

breakdown

specs



### Canon CanoScan FB636U

The CanoScan's specs are identical to the £49 Artec's – but they are very different machines. First, this is sleek and silver (although Canon has now released a Blueberry version – see page 37). For my money, the FB636U is the best-looking scanner ever. On its launch, Canon suggested the design was inspired by a Samurai sword. The software supplied is Adobe PhotoDeluxe, an excellent image-editing application that sprouted from Photoshop. It's simple enough for kids, but powerful enough for basic print and Web graphics. Also useful is the Toolbox CS software that watches out for a signal from the scanner when the button on the front of the scanner has been pressed. This fires-up the scanner, and also launches the scanning software, as well as asking what is to be done with the scan. There's a choice of printing directly, opening an application for faxing or emailing, or simply opening PhotoDeluxe for editing.

#### Macworld's buying advice

The CanoScan looks great and produces decent-quality scans. Because it's powered by USB, there's no extra cabling or power supply, so size is kept to a minimum. For such a slither, it offers great functionality. If you want a prettier scanner than the Artec, this is it.

### Hewlett-Packard ScanJet 5300c

This is the first Mac-friendly scanner that HP has made in a while. The box, though, makes no mention of its Mac compatibility, and this may put off potential purchasers. The scanner is curvy and attractive, though bulkier than most of its competitors. There are four buttons on its front, giving easy-to-access functionality such as scan-to-print and scan-to-fax. The problem is, the Mac software doesn't currently support these buttons. Grrrr... HP assures me that regular driver updates will add new features and enable the buttons "over the next few months". It also says a Photoshop plug-in is "on the way". All this gives me the impression the 5300c is a work in progress – something that's distinctly unappealing. Why bother with an unfinished driver when other models have all these features – and for less money? Scan quality is reasonable, but the scanning software is less elegant than most. This scanner is aimed more at an office document-scanning environment than any graphics application.

#### Macworld's buying advice

This may be a great scanner, but only when the software suite is finished. Glaring omissions include lack of a Photoshop plug-in, which limits its versatility.

### Agfa SnapScan Touch

Of all the scanners tested this one was the best behaved. Because I was testing all the scanners on a single machine, extension and driver conflicts meant some refused to work before I binned all other scanning software. The SnapScan, though, breezed through everything. Installation was simplicity itself. Once installed, a Scan button on the the casing launches the ScanWise software. It also has four further scan buttons that can be set to scan to anything you wish. Unusually, this scanner's lid is hinged along its side, rather than at one end. It also comes with familiar fruit-flavoured handles. All iMac colours are included, so there's no need to spend additional cash colour co-ordinating your scanner. Image quality was extremely good, due in part to the excellent software provided. The application asks what kind of original document is being scanned and how it is to be outputted. It takes care of everything else automatically, and gives top-quality scans every time.

#### Macworld's buying advice

The SnapScan gives great quality scans, it has excellent software and it looks pretty too. The only thing holding it back from top spot is that the Umax scanner has a transparency adaptor. If you are unlikely to need to scan transparencies, the SnapScan is perfect.

### Microtek ScanMaker 3600

Microtek has a long and illustrious history of building scanners for the Mac. The ScanMaker 3600 is possibly one of the cheapest Microtek scanners ever, but it still shows its high-end roots. When its ScanWizard software is launched, the initial screen is plainly laid out. It gives easy-to-understand instructions, and is ideal for novices. However, there is an option for advanced users, and this brings up a host of user-definable settings to get a more professional scan. Although achieving a really top scan requires a bit of colour knowledge, scans from the simple interface are still very good. The scanner is a bit bulky, but inoffensive enough – at least it's half the size of older scanners. The trouble is that newer models are half the size again. That said, some may prefer its reassuring size – you won't lose it on your desk, as you might the skinnies.

#### Macworld's buying advice

The dual software interface makes this scanner ideal for either a new user or a graphics specialist. It can be as simple or as complex as you like. Whatever you use the ScanMaker for, images will be of a high quality – and the price is right too.

### Epson GT-7000

The GT-7000 is one of those products that has migrated down from a higher-end price range. When it was released last year it cost £200. It has since been updated with a USB interface and has dropped to £149 – just within our price threshold. All these scanners support USB connectivity, making them compatible with all the latest Macs – from iBook to Power Mac. The software supplied is TWAIN software (Technology Without An Interesting Name) to drive the scanner. It gives a handy selection of controls without getting too technical. The results are sharp, so everything works as it should. The excellent Adobe PhotoDeluxe is included, so the consumer is well catered for, as is the professional user. There's also a single button to fire-up the scanning software from the scanner. Presto Page Manager pulls all the included software together to act as a one-stop shop for all your scanning needs.

#### Macworld's buying advice

The GT-7000 is a very good scanner, but it lacks the bells and whistles of the Umax scanner. An alternative to the GT-7000 is the Epson Perfection 610, which is £20 cheaper and appears to offer similar features.

### Artec Ultima 2000

Artec specializes in under-cutting the competition, and with the Ultima 2000, it has certainly done that. How does Artec manage to make a scanner for just £49? Well, they're manufactured cheaply in Taiwan and wherever a corner can be cut, it has been – especially on aesthetics. What you get is what you pay for – the bare essentials, and nothing more. Installation is easy – just a couple of extensions and a plug-in. Inexperienced users should be able to follow the instructions quite easily, but an installer application would have been nice. The scanning software has documentation in PDF format on the CD rather than in a printed manual. Once up and running, things are straightforward, there being few features to distract the user. Quality is acceptable, but occasionally images contained streaking that was not apparent on the original. It can be used quite merrily for Web use and family newsletters, but beyond that, and you'd be pushing its capabilities. It does have Adobe PhotoDeluxe, which is a plus for the price.

#### Macworld's buying advice

It's small – so for the space-conscious it could be worth buying. It isn't the best scanner around – but for the price, it's unbeatable. You simply can't argue with the £49, can you?

Manufacturer: Canon  
Model: CanoScan FB636U  
Resolution: 600-x-1,200 dpi  
Software: PhotoDeluxe  
Price: £119 inc. VAT  
Contact: Canon  
Telephone: 08705 143 723  
URL: www.canon.co.uk

Star Rating ★★★★★/8.8

Hewlett-Packard  
ScanJet 5300c  
Resolution: 600-x-1,200 dpi  
Software: PrecisionScan Pro  
Call  
Hewlett Packard  
0990 474 747  
www.hp.co.uk

★★★★/5.7

Agfa  
SnapScan Touch  
Resolution: 600-x-1,200 dpi  
Software: ScanWise, ColorIt!, OmniPage LE  
£129 inc. VAT  
Contact Agfa  
Phone 0208 231 4903  
www.agfa.co.uk

★★★★★/9.0

Manufacturer: Microtek  
Model: Scanmaker 3600  
Resolution: 600-x-1,200 dpi  
Software: ScanWizard, OmniPage LE, PhotoDeluxe  
Price: £93 inc. VAT  
Contact: Computers Unlimited  
Telephone: 020 8358 5857  
URL: www.microtek.com

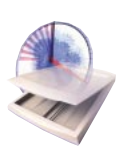
Star Rating ★★★★★/8.5

Epson  
GT-7000USB  
Resolution: 600-x-2,400 dpi  
Software: Adobe PageMill, Presto Page Manager,  
Price: £149 inc. VAT  
Contact: Epson  
Telephone: 0800 220 546  
URL: www.epson.co.uk

★★★★/8.4

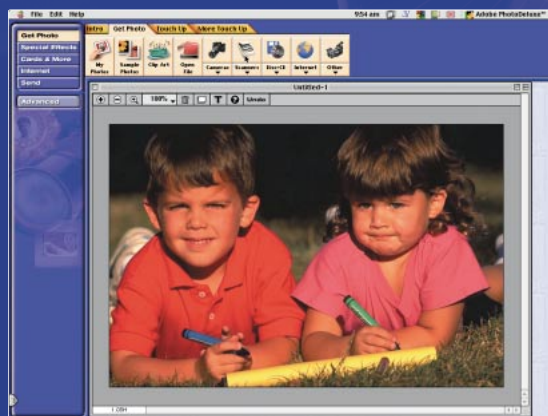
Artec  
Ultima 2000  
Resolution: 600-x-1,200 dpi  
Software: TextBridge Classic, Acrobat Reader, PhotoDeluxe  
Price: £58 inc. VAT  
Contact: New Century Computers  
Telephone: 020 8795 1177  
URL: www.artec.com

★★★/6.7



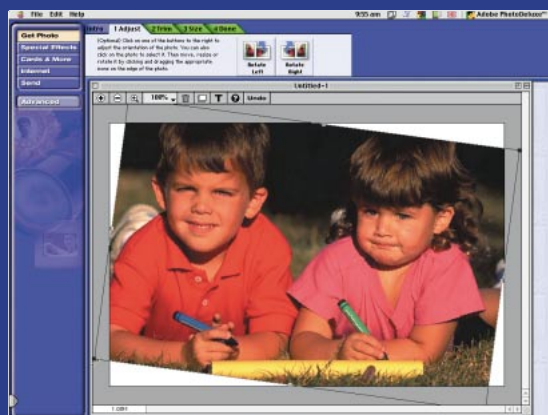
PhotoDeluxe appears to have been neglected by Adobe, having been at version 2.0 for some time now. However, it remains one of the best entry-level photo-manipulation tools, allowing

novices and experts to trim, tweak and texture images, and ready them for use, whether for print or the Web use. It's fun and allows anyone be creative with images.



#### Step 1

Get your picture. You can click on the scanner button and that will launch the scanning software. Scan the picture as normal.



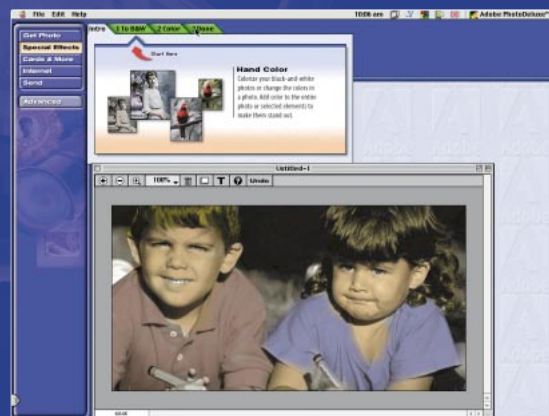
#### Step 2

Adjust the image by rotating, trimming and resizing if needed.



#### Step 3

If colours need to be adjusted, either let PhotoDeluxe do an instant fix or change colour and contrast manually.



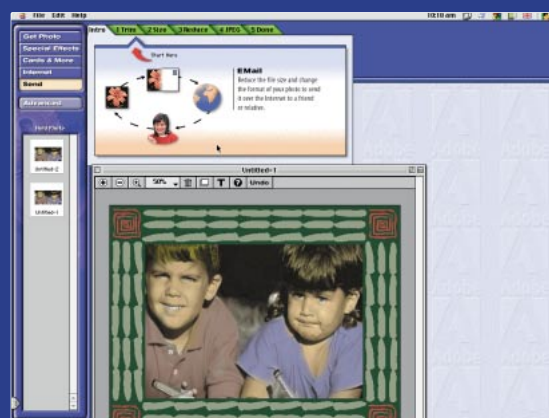
#### Step 4

Choose from a range of effects to make the picture more interesting. Here, we've opted to hand-colour the image.



#### Step 5

Fit the image into the chosen frame.



#### Step 6

Choose your output. This can be for the Web, for email or to print. PhotoDeluxe will automatically choose the best resolution.





# Search me

Where and how to explore the wild world of the Web. By Tom Negrino

**T**he best thing about the Web is that it contains just about anything you'd ever want to find. The worst thing about the Web is that sometimes it's almost impossible to find what you want. The bigger the Internet gets, the more difficult it is to focus in on what you're looking for among its 800 million Web pages – and the more important it is that you learn how to search the Web effectively.

Notice that we said effectively. It's easy to search the Web these days, but in most cases, you can't easily find what you want – or you do find what you want, but it's mixed in with irrelevant sites. Cast your line into the Web ocean with some search engines, and you're likely to find 43,965 sites wriggling on your hook.

There's no need to slog through tons of results, hoping that you stumble across what you're looking for. You can be an expert Web searcher, reaching your destination with a minimum of fuss (as well as fewer visits to out-of-the-way, irrelevant sites). It's as easy as choosing the right search sites – we'll show you how – and following our advice to expertly home in on what you seek. Once you've learned the skills, you'll view the Web as the world's biggest library – not as the world's biggest haystack with a valuable needle lodged deep inside.

## Know your tools

When you start searching, knowing a bit about the tools you're using helps. The most basic distinction between Internet search sites is that some are search engines and others are directories.

**Search engines** A search engine builds an index by using pieces of software called spiders, which crawl the Web, indexing pages as they encounter them. Spiders return to a site periodically to check for changes, and the changes eventually get posted to the search engine's index.

Search engines rely on keyword searching – you type a word or a string of words, and the site searches its index for those specific words. Web-site designers can affect how highly their site is ranked by search engines, with careful selection of page titles, body copy, and invisible HTML tags called metatags. (If you're interested in the ins and outs of search engines and how to design Web pages with their capabilities in mind, check out Search Engine Watch, at [www.searchenginewatch.com](http://www.searchenginewatch.com)).

The metatag system should give you nicely relevant results, but many Web designers manipulate this system by filling their metatags with lots of extra information. For example, some search engines used to judge a Web site's relevance to a particular topic by how many times that



topic was mentioned on the site. Sneaky webmasters simply put a couple of hundred repetitions of the topic keyword into the page's metatag or put hidden text on their pages that was the same colour as the page's background colour. A reader couldn't see the hidden text, but search engines could.

Most often used by pornography sites, these methods of duping search engines have become so rampant that they've developed a name: spamdexing. The better search engines have fine-tuned their indexing software to exclude most spamdexed results, but some lag. If you use Excite ([www.excite.com](http://www.excite.com)) or Lycos ([www.lycos.com](http://www.lycos.com)) to search for Monica Lewinsky, for example, you'll get links to porn sites as your top results.

**The best ones** One of the oldest (and still among the best) search engines is AltaVista ([www.altavista.com](http://www.altavista.com)). It has one of the largest indexes, which is important, since a larger index means the engine covers more of the Web and your search will more likely be successful. (See the screen shot "Power tool").

Google ([www.google.com](http://www.google.com)) has been around only since 1998, but it's already become a major player, thanks to its superb ability to find relevant results. Google lets you search by keyword, but it ranks its results based on how many other sites have linked to the sites that contain the term that you're looking for. The logic here is that if a bunch of sites link to a particular site, that site is more likely to have useful information. Google recently announced a specialized Apple-specific search engine that is devoted to information about Macs and Apple. You can find it at [www.google.com/mac.html](http://www.google.com/mac.html).

**When to use a search engine** Search engines shine when you're looking for a topic that can be easily described by a keyword as well as when you're looking for things that are very specific or obscure. For example, if you want to know everything about "monster trucks" or are looking for Web pages that include your name.

## Directories

Directories, by contrast, aren't built by automated software; people construct them. The biggest and most successful example, Yahoo ([www.yahoo.com](http://www.yahoo.com)), maintains a staff that accepts site suggestions from Yahoo users, categorizes the sites, and adds them to the directory. The staff (their official name is the Yahoo Surfers) assigns sites a relevancy score, which is why the most popular sites in a given category

show up at the top of a Yahoo listing, with lesser-known or lower-ranked sites being listed below it in alphabetical order.

Because people are a lot better at evaluating Web pages than software is, directory-based sites tend to give you not only fewer results but also results that are more relevant to your search. But because people are also slower than indexing software, it can take a long time for a site to get added to a directory, no matter how good it is.

Another important directory is the fast-growing Open Directory Project ([www.dmoz.com](http://www.dmoz.com)), which was acquired by AOL when it bought Netscape. Using the slogan "Humans do it better," the Open Directory Project is a Web directory with more than 20,000 volunteer editors, who had categorized more than 1.4 million sites as of January 2000. The remarkable thing about the Open Directory Project, however, is that it's freely available for licensing and use by other search sites, and many commercial services draw on it to supplement their own offerings. If someone adds a site to the Open Directory Project, then you'll immediately find it on all the search sites that subscribe to the Open Directory Project. It's a simple, but effective approach.

**When to use a directory** It's often a good idea to start your Net search at a directory such as Yahoo, because most common searches there will get good results. For example, a search on Yahoo for Charon turned up several sites about the moon of Pluto, clearly indicated by the category Science > Astronomy > Solar System > Planets > Pluto. This was just what my son needed for his science report. Looking for information about Charon with search engines brought up a bewildering mix of irrelevant things such as companies with that word in their name and sites dedicated to Greek mythology's ferryman of the dead, who also went by that name.



### Just ask

Ask Jeeves ([www.ask.com](http://www.ask.com)) lets you ask questions in plain English instead of making you learn special search terms.

## UK searches

If you want to narrow your search to the UK go to the local search sites for each of the major players:

[www.excite.co.uk](http://www.excite.co.uk)  
[www.lycos.co.uk](http://www.lycos.co.uk)  
[www.altavista.co.uk](http://www.altavista.co.uk)  
[www.google.co.uk](http://www.google.co.uk)  
[uk.yahoo.com](http://uk.yahoo.com)

You can search the whole Web from these sites, too.

▶ page 86

## Best places to find...

### Old and rare books

Bibliofind ([www.bibliofind.com](http://www.bibliofind.com))

It's nice that you can get practically any book in print at any number of online bookstores, from Amazon ([www.amazon.co.uk](http://www.amazon.co.uk)) to Powell's Books ([www.powells.com](http://www.powells.com)).

For those who are looking for a hard-to-find volume, however, Bibliofind has listings of more than ten million used and rare books at booksellers around the world. Remember – that's just the book sellers – you haven't even started browsing for titles yet. Once you find a book in Bibliofind's database, you can buy the book directly from the seller; Bibliofind doesn't take a cut.

### Music

MP3.com ([www.mp3.com](http://www.mp3.com))

MP3 audio (see screenshot right) makes acquiring and listening to music easier, while scaring the pants off fat-cat record-company moguls. Most people are using MP3 programs to rip their CD collections to their hard disks to copy to an iBook or sporty MP3 player. But there are many musicians who use easily transportable MP3 files to reach a worldwide audience. At MP3.com, you'll find some music from well-known artists, as well as a lot more music from artists unsigned by record companies – and discover why many haven't been signed, but you'll also find



some real gems. MP3.com has hi-fi and lo-fi versions of most of its music; the lo-fi versions are best for modem users.



## Best places to find...

### Discussion boards

Remarq ([www.remarq.com](http://www.remarq.com))

Net newcomers tend to think the Web is the Internet, but that's not so; a huge amount of the data transmitted over the Net is part of a large number of discussion boards called Usenet.

There are more than 30,000 of these boards (called newsgroups) on Usenet, and chances are good that your ISP (Internet service provider) doesn't carry the entire newsgroup.

That's why you'll want to turn to Remarq, which not only has virtually all of Usenet but also stores it so you can search down discussions about, well, just about anything. Remarq organizes newsgroups into subject areas and puts a friendlier face on Usenet's arcane naming structure, so you don't have to remember the name of the comp.sys.mac.misc newsgroup.

mistake in *Terminator 2*, you can get the facts here. In recent months, the site has transformed from a directory of film and TV information into an entertainment portal with discussion boards, local movie times, and entertainment news. IMDb accepts some reader submissions, so if you know something about a movie that's not already in the database, you can add it (they'll check what you tell them, of course).



hunting resources; lets you store your résumé online; and has thousands of company profiles, so you can check out a potential employer before you apply.

### Web graphics

Art Today ([www.arttoday.com](http://www.arttoday.com))

Looking for graphics for your Web site? Want a snappy look but aren't so hot with Photoshop? Look no further than Art Today, (see screenshot below) which has 150GB of images available for paid members to download (membership starts at \$29.95 per year and goes up to \$99.95 per year).

But a free membership still gives you access to over 40,000 Web graphics. The free images available include buttons, icons, backgrounds, and plenty of other useful graphics. When you cough up some cash, you get access to clip art, photographs, and fonts.



### Ways to decipher tech items

Computer Currents High-Tech Dictionary

([www.currents.net/resources/dictionary/inex.html](http://www.currents.net/resources/dictionary/inex.html))

Can't tell a GIF from a GIMP or a VAR from a VAD? You're not alone. There are so many acronyms and technical terms to keep track of in the computer field that it's good we have the High-Tech Dictionary to separate the real terms from the technobabble.

In addition to a searchable database of tech terms, the site (see screenshot above) has a list of emoticons (those sideways facial expressions made from keystrokes), HTML tags, file extensions, and Internet domain suffixes. The site can also generate a random term.

### A new job

Monster.com ([www.monster.co.uk](http://www.monster.co.uk))

Tired of your job? Looking for a new one but don't have the time to pound the pavement or scan through the Sunday paper? Monster.co.uk may just have your new job waiting for you.

You can use the site by browsing the job listings, sorted (of course) by geography, category, and keywords. Or if you're ready to make the jump to "e-lancing," you can list yourself in an auction where employers bid for your skills. The site also includes job-



### Movie and TV info

The Internet Movie Database ([www.imdb.com](http://www.imdb.com))

The ultimate resource for settling bar bets about virtually any movie or television program, IMDb (which was recently bought by Amazon.com) has listings of titles, people (actors, actresses, and crew), characters, plots, and famous quotes. See screenshot above. You'll also find their lists of the top films of all time (as well as the worst!) and Academy Award winners. You can even discover which entertainers share your birthday.

My favourite IMDb features are the listings of trivia and goofs associated with individual movies. If you've ever wondered about the significance of oranges in the *Godfather* movies or thought you saw a

**Neither fish nor fowl** As you might guess, some search sites use a hybrid approach, with spiders backing up humans. Even Yahoo, the granddaddy of the human-based approach, does this now. When you do a search for something that Yahoo can't find in its own directory, your query gets bounced to a search engine from Inktomi, which searches through its spider-built index. Similarly, the search engines at HotBot ([www.hotbot.com](http://www.hotbot.com)) and AltaVista are now

backed up by the Open Directory Project's database.

**Ask a simple question** The Ask Jeeves site ([www.ask.co.uk](http://www.ask.co.uk)) combines the directory and search-engine approaches, too, but in a unique, user-friendly way. It allows you to ask questions in plain English, rather than requiring keywords. You simply type in a question such as "Where can I find a cost comparison for mortgages?" and Jeeves returns a choice of answers. (See the screenshot "Just ask").

How does it work? The site parses your question and compares it to the millions of questions, compiled by Jeeves staff, already on file. When it finds a match, Jeeves displays the answer to your question. If your question isn't on file, Jeeves performs a keyword search on your question, returning results from several other search sites.

The advantages to using Ask Jeeves are that you can phrase your question the way you would ask it in the real world and that you don't have to learn any search techniques. Plus, it almost always gives you useful results.

**Metasearch sites** Another category of search site is the metasearch site. This is a search site that doesn't do its own Web indexing but instead searches other search sites. Most metasearch sites take your search term and submit it to several search engines, eliminating duplicate results; a good example of this kind of site is Go2Net (previously known as MetaCrawler), at [www.go2net.com](http://www.go2net.com).

There are also metasearch utilities, such as Apple's own Sherlock, which can do smart searches of multiple sites (see "Super clue," *Secrets*, *Macworld* March 1999, for more tips about using Sherlock). Metasearching is useful because it winnows out a lot of the repeated hits you get from some search engines. But results are at the mercy of the accuracy of the individual sites in the metasearch. Following the ancient computing law "garbage in, garbage out," a metasearch site is only as good as its component sites.

**All-in-one sites** Instead of going to a lot of sites, why not just build a site that lists other sites and lets you pick which one to search? If a search turns out to be not useful, another site is as close as your browser's Back button. That's the idea behind all-in-one search sites. One of my favorites is Search It All ([www.search-it-all.com](http://www.search-it-all.com)), which gives you a single query box that lets you search from any of 23 other search sites. The site also has specialized areas, such as Biomedical, Government, Reference, and Sports, for more specific searches, and each area gives you several information sources to choose from.

## Find what you want

For most of your searches, you'll probably start with a directory or Ask Jeeves. There are going to be times, however, when you can't beat a search engine. To zero in on the information you really want, you'll need to learn how to talk the language that search engines use.

Let's say that you've just bought a new Power Mac G4 and you want to add a second monitor and a fast video card to it. A search for G4 multiple monitors on AltaVista produces 1,940 results – more than you can comfortably look through. But a search for G4 "multiple monitors" – using quotation marks to group the last two words – trims the results list to 125, and adding voodoo3 (the name of a video card) narrows the results to a manageable 34 sites.

**Power-searching with AltaVista** AltaVista is an amazingly powerful search engine if you know all of its little shortcuts and helpers. In case, like most of us, you don't, here are some ways to make your searching more efficient.

You'll want to learn AltaVista's methods for two reasons: first, it's one of the largest and most popular search engines, and second, AltaVista has been around longer than many of the other search engines, and lots of them have adopted AltaVista's way of doing things. (Check the More Information or Advanced Search sections of other sites for their unique features). Except when noted, you can employ all these search tips from the main AltaVista page, rather than from the Advanced Search page.

**Where will you search?** Below the search field on AltaVista's opening page, you'll see the Find Results On

choices. Here, AltaVista lets you choose where to search: The Web, News, Discussion Groups, or Products. Selecting News limits your search to current news stories, whereas selecting Products instructs AltaVista to search shopping sites.

**Specify your native tongue** One way to cut down on the number of irrelevant pages your search returns is to specify what language you speak. Chances are, you're only interested in Web pages in a single language. Why wade through hundreds of sites in Romanian? You can cut back the number of results dramatically if you use the pop-up menu to specify your preferred language.

**Use the right case** when you search with all lowercase keywords, AltaVista searches for all forms of the word. Once you use a capital letter, AltaVista will return only results that have the same capitalization format. For example, when I searched for information about JavaScript, searching for javascript returned 1,292,770 pages, Javascript returned 280,480 pages, JavaScript returned 757,925 pages, and JAVASCRIPT returned 12,740 pages.

**Wild cards** AltaVista allows you to use wild cards – partial words – in your searches by adding an asterisk to your words. Searching for auto\* returns all pages with words that include auto (for example, automobile, automotive, and automatic). Use wild cards to easily capture the singular and plural forms of your keywords.

**Be precise** If you want to learn all about your favourite breed of dog, you might assume you can simply type Labrador retrievers in the AltaVista search field. Not so fast: all you've asked the search engine to do is find all pages that include either of those words. That means you'll get results that include pages on Labrador (the Canadian region) and pages on golden retrievers, as well as a few pages about Labrador retrievers. If you don't want to spend time scrolling through search results that are off the mark, you need to be more precise.

To find only pages that contain the exact phrase Labrador retrievers, put quotes around the phrase (like so: "Labrador retrievers"). However, if you want to know about taking your pet to a dog show, you probably won't have luck searching for "Labrador retriever dog show" unless you happen to find a page that has exactly those four words in that order. And if you search for "Labrador retriever" "dog show", you'll get all the dog-show pages and all the Labrador retriever pages, not just the ones about showing your breed.

You need to be able to tell the search engine that you want to find only pages that contain both the phrases Labrador retriever and dog show. For that, you'll need to move beyond typing simple phrases and begin adding powerful symbols and commands to your searches.

To tell AltaVista that each phrase must be on the pages it returns, add a plus sign – which signifies that the item following it must appear – before each phrase. Searching for +"Labrador retriever" +"dog show" requires that the



### Power tool

*AltaVista's advanced search terminology may not be intuitive, but it can help you find almost anything, no matter how obscure.*



pages contain both phrases. And as you'd expect, adding a minus sign before a word or phrase means that a returned page cannot contain that topic. That lets you narrow your search request – so +“Labrador retriever” +“dog show” - California would exclude shows held in the Golden State.

## Try an advanced search

You may still get too many results, even when you've narrowed things down with the above techniques. When you need a more precise search, you can click on the Advanced Search tab on AltaVista's main page. The Advanced Search option doesn't allow you to use pluses and minuses to specify whether to include or exclude pages. Instead, you need to use Boolean logic – a mixture of keywords separated by ANDs, ORs, and NOTs – which gives much more specific results.

Let's say that you're searching for a review of the latest G4 Macs, trying to figure out which one to buy. You could go to AltaVista's main search bar and enter +G4 +review, but that search results in reviews of lots of strange things (such as a page on cell aging), all of which have G4 in their names. But if you search for +G4 +review +“power mac”, you'll miss all the pages that refer to the machine just as a Mac or Macintosh. It's time to try a Boolean search.

A regular search doesn't let you search for options where any one of a list of items must be true. But a Boolean search lets you use the command OR to do just that. On the advanced-search page, therefore, you could search for G4 AND review AND (“power mac” OR mac\*). You need to put your OR possibilities within parentheses so the search engine knows where the list begins and ends. Also, note that on the Advanced Search page, you use

the command AND instead of the plus sign.

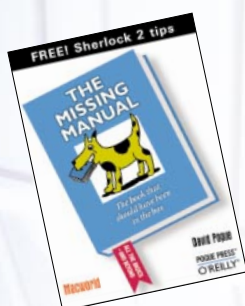
If you want to narrow the search down further, you can use the AND NOT option, which works like the minus sign in a regular search. For example, if you want to skip all results from [www.apple.com](http://www.apple.com) because you know their opinion about the G4 already, your search would be G4 AND review AND (“power mac” OR mac\*) AND NOT host:apple.com. (What's that funky host: apple.com thing we just did? See the table, “Eight ways to find things faster,” for these special commands).

## The last word

Automated searching has come a long way in the last couple of years, but the best software still can't match a human editor when it comes to finding relevant results. That's why your first stop when looking for information on the Web should usually be a directory, such as Yahoo or the Open Directory Project. Ask Jeeves's plain-English queries also deserve special mention, because the site is very easy to use and nearly always gives useful results. If you're looking for a very specific topic, you'll want to use one of the keyword-based search engines. AltaVista and Google, although they work in vastly different ways, both excel at providing relevant results. Google in particular does a great job of sparing you most of the junk sites. Finding information on the World Wide Web is still far from a perfect process, but with your new-found knowledge and a little persistence, there's no doubt that your search will be a success.

MW

Tom Negrino's latest book is *Quicken 2000 for Macintosh, Visual QuickStart Guide* (Peachpit Press, 1999).

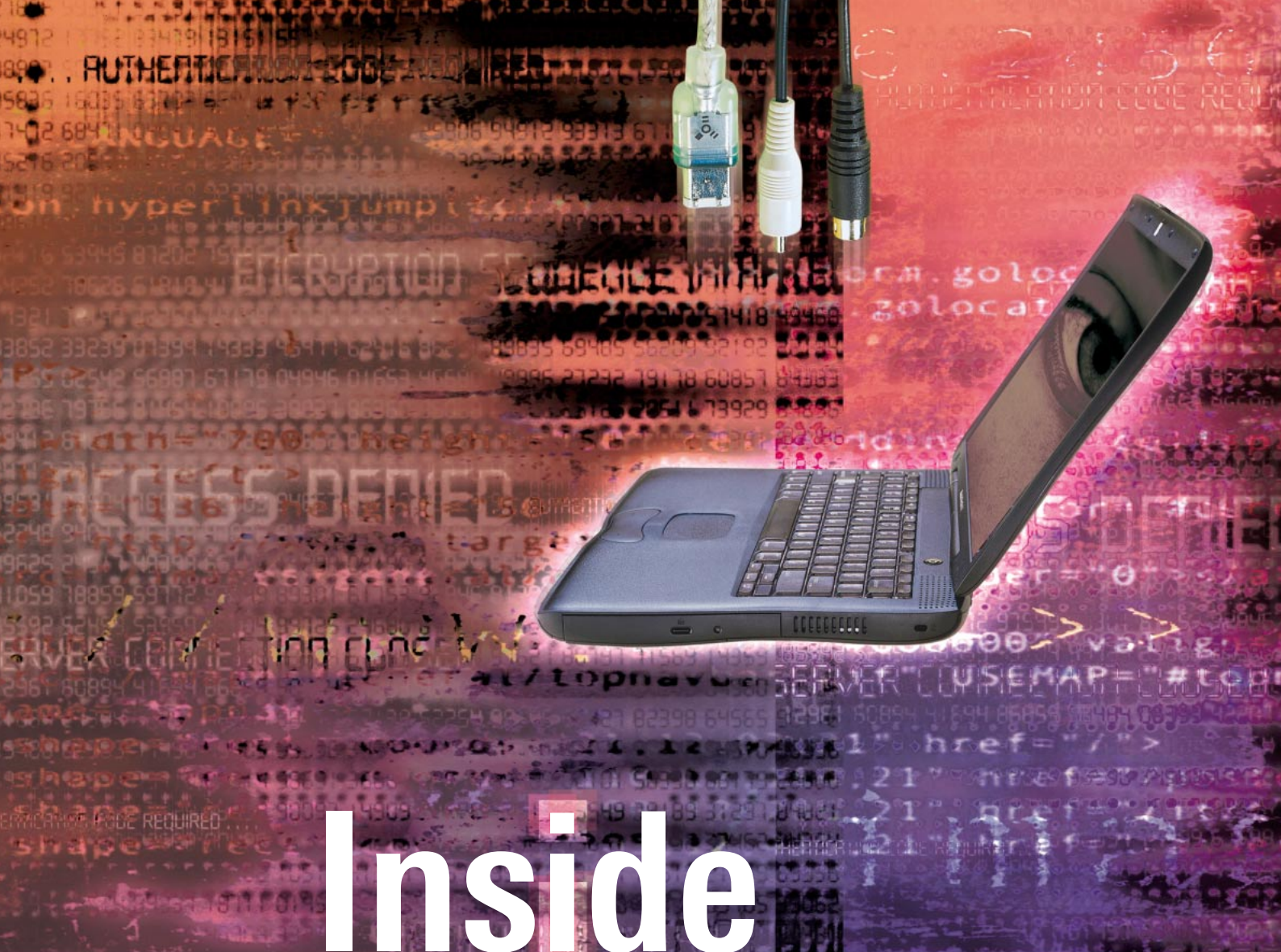


For Sherlock 2 tips, read our *Missing Manuals* booklet, free with this issue of *Macworld*.

## Eight ways to find things faster

AltaVista has a variety of search attributes that you can use to make your searches even more precise. To use one, go to AltaVista's Advanced Search page and type it in the search field, followed by a colon and the text you want to require or disallow. These search attributes let you zoom in on images, links, or portions of Web pages.

Search Attribute	What it does	How it can help you
anchor:	Finds pages that contain the specified word or phrase in the text of a hyperlink. Searching for anchor:“Click here to make money fast!” would bring you pages with the words Click here to make money fast! as links.	This search attribute lets you find links with particular wording.
domain:	Finds pages within a particular top-level domain or two-letter country code. Use domain:gov to find pages from government sites or domain:uk to find pages on British sites	This is particularly helpful if you're trying to find information on an official site. For example, you might want to see what the Justice Department itself has to say about Microsoft.
host:	Searches just the host-name portions of URLs. For example, host:apple.com would find pages on Apple's Web site, and adding -host:geocities.com to your search would keep pages with annoying pop-up windows out of your results.	With this search attribute, you can narrow your search to just a single host but still get all the sites under that host. For example, you would get pages at info.apple.com as well as www.apple.com.
image:	Finds pages with images that have a specific file name. Use image:pikachu to find all the pages with an image named pikachu.	This will save you a lot of time if you want to see something instead of just read about it.
link:	Finds pages with a link to another page with the specified URL text. You can use link:www.yoursite.com to find all the Web pages that link to your site.	This search attribute lets you find out how popular a site is. One indicator of a site's popularity is the number of other sites that link to it. If you're a Webmaster, this search lets you find out which sites have linked to yours.
text:	Finds pages that contain the specified text, excluding image tags, links, or URLs.	This is much the same as a regular Web search; it's not used very often.
title:	Finds pages that contain the specified word or phrase in their titles. Searching for title:“welcome to adobe golive” gives you all the Web pages of GoLive users who couldn't figure out how to turn off the program's default title (there are more than 30,000 Web pages with this title out there, at last count).	Since the title of a page usually refers to the topic or the most important information of a page, this search attribute helps you find relevant results and cut down on the number of hits.
url:	Finds pages with a specific word or phrase in the URL. Use url:macintosh to find all pages on all servers that have the word macintosh anywhere in the URL.	This search attribute lets you do broad searches for terms in URLs.




# Inside information

Expert tips to help you use your PowerBook like a pro. **By Jason O'Grady**

**W**hen you're more often on the road than in the office, chances are you depend on your PowerBook – if not for your life, then at least for your money. But Apple's laptops have their idiosyncrasies, and travel brings its own challenges. Most of us have been caught at least once without a way to print, connect to a monitor, or jack into a network. In these situations – from the embarrassing to the deal-breaking – even seasoned users can use a little expert help. That's where we come in. Whether your portable pal has a fresh face or is somewhat long in the tooth, our insider tips will keep it running at its best and save you from “gotchas” that can wreak havoc on your workday.

BACKGROUND IMAGES COURTESY OF PHOTODISC

page 92 





‘Even road warriors can’t live by laptop alone. Sooner or later, you’ll want to hook-up to speakers, connect to a network, or reach beyond your PowerBook’

### Security blanket

You love your PowerBook because you can sling it around without breaking a sweat. Thieves love that, too. Beware a common airport scam that involves a decoy stalling as he or she goes through the security check's metal detector while an accomplice grabs your computer as it comes through the baggage scanner.

PowerBook ownership also poses another kind of security threat. Whether you fear theft or simply share your laptop with co-workers, you should keep your data secure. The simplest way to protect your information from prying eyes is built right into the Mac OS. The Password Security control panel activates a password screen any time your machine wakes from sleep mode or restarts. Password security is relatively easy to foil, but it can keep casual snoopers at bay.

In OS 9, you can restrict access to certain applications and folders via the Multiple Users control panel. Multiple Users lets you specify how much access each individual has and to which files. It's also useful for shared PowerBooks because it saves each user's systemwide preferences along with the log-in information.

But say you're out hawking the idea of the century. If your data gets into the wrong hands, your dreams of a multi-billion pound buyout go down the drain. You need serious security, such as Power On Software's £65 Disk Lock (Softline, 01372 726 333). It encrypts files in two ways – including DES, the US government standard – and protects them against deletion.

Another security program, ASD Software's £99 FileGuard (Softline, 01372 726 333), boasts four ways to encrypt data, including Triple DES. The cool part is that you can send encrypted files electronically to any Macintosh user, regardless of whether they use FileGuard.

### Cables and connectivity

Even road warriors can't live by laptop alone. Sooner or later, you'll want to hook up to speakers, connect to a network, or otherwise reach beyond your PowerBook.

**Now hear this** You can attach speakers via the stereo

audio-out port located next to the power adaptor plug on the PowerBook's back plane. A standard one-eighth-inch stereo miniplug, like the one on a Walkman-like portable stereo, handles sound out. If you also have a standard dual RCA cable – available in electronics stores and Mac catalogues for about £1 – you can send audio out to most consumer electronics devices.

**Capture sound** A PowerBook isn't exactly a recording studio, but when you need to capture audio with it, you can connect a microphone to the audio-in port. One caution: that port requires a powered microphone – and most mikes are not powered. The £20 NE Mic Audio Adaptor from Griffin Technology (Alta Technology, 0207 622 6606) comes to the rescue.

**Attach SCSI or FireWire devices** When you want to attach an external device such as a hard drive or CD drive, pick high-speed communications cables based on the PowerBook model you own. If your model has SCSI ports, pack an HDI-30-to-25-pin SCSI adaptor. You'll need this handy adaptor to make the square SCSI port on your PowerBook work with standard SCSI cables.

You may also want to try out SCSI Disk Mode, which lets you mount your PowerBook as a hard drive on another Macintosh. This is especially useful when you need to copy a lot of files between a PowerBook and a desktop machine. To enable SCSI Disk Mode, start with the PowerBook Setup, PowerBook SCSI Disk Mode, or PowerBook SCSI Setup control panel (depending on which system you have).

Open the control panel, select the SCSI ID you want for the PowerBook (1 through 6), then shut down both machines and connect them via a SCSI cable and SCSI Doc. Your PowerBook hard drive will mount on the target machine like any other drive. For information on attaching FireWire devices (not possible with all PowerBooks), see the sidebar, "FireWire tips and gadgets".

**Connect to ethernet** When your work environment may involve ethernet, carry both straight and crossover ethernet cables with you. The first allows you to jack into almost any corporate network; the second lets you connect directly to any other ethernet-equipped Mac, no hub necessary. Both cost less than £6 from a variety of sources. If your PowerBook doesn't support ethernet (that is, if you have a pre-3400 model) and you need that kind of connectivity, it may be time to buy a newer model.

**Connect via serial** If your PowerBook has a serial port (Wall Street or any prior model), don't forget a Mini Din8 serial cable (aka an ImageWriter cable). This cable can save your bacon when it comes to those smaller file transfers. Just connect two serial-equipped Macs with the Din8 cable, and then create a two-computer micro LAN by enabling File Sharing and selecting the target Mac in the Chooser. But keep in mind that the small data pipe will have you tearing out your hair if you try this trick with larger files.

**Make email easy** Do you live for email? Then save yourself the struggle of trying to stretch the 6-foot cable that came with your modem past the corner of your hotel bed. Instead, plunk down a mere £1 to £5 for 10- and 15-foot standard telephone cables (known as RJ-11 cables, these are available from the usual Mac sources). Pick up a 50p RJ-11 coupler, too – very handy when you have to connect two RJ-11 cables to reach that faraway plug.

### Accessible adaptors

Adaptors can bail PowerBook users out of many a tight situation, such as connecting to an unfamiliar video projector or printing a revised proposal on the spot at a client's office.

## FireWire tips and gadgets

**F**ireWire is a superfast way to transfer data to and from your PowerBook. A new PowerBook model, code-named Pismo, was recently released with built-in support for FireWire. (See *Macworld*, April 2000 for more details). And thanks to FireWire PC Cards that fit in the CardBus slot, any G3 PowerBook running at 300MHz or faster can join the party.

### FireWire card vendors

FireWire PC Cards are available from many vendors, including: VST Technologies (from £105, Computer 2000, 01256 868 008); Newer Technology (FireWire 2 Go PC Card; £109, AM Micro, 01392 436 473); and Orange Micro (OrangeLink two-port FireWire PC card; £115, AM Micro, 01392 436 473).

Because these cards work only in a CardBus slot, any PowerBook older than the Wall Street model can't use them without modification. If you've got an older model but are still frantic for FireWire, check out MCE's \$99 CardBus upgrade ([www.powerbook1.com/cardbus.html](http://www.powerbook1.com/cardbus.html)).

Models with built-in FireWire have at least one crucial advantage: they can power FireWire devices through the cable. Try the same thing with a FireWire PC Card and it will overheat. (However, the RATO card's power jack is on the dongle that

connects FireWire devices to the card, thus avoiding the problem.)

Because digital video is such a data hog, video editors on the go are sure to be among the loudest voices welcoming FireWire. FireWire cables can have four or six pins; if you'll be working in an unfamiliar video studio, bring both kinds.

Many of the new digital video cameras boast FireWire input and output and are small enough to take on the road. See "Fasioning fabulous flicks," in May *Macworld*, for a look at five cameras that start at around £1,000. The Sony DCR-TRV10, costs £825 (Sony, 0990 111 999).

Mobile video editors won't be the only people enjoying the size and speed of portable FireWire hard drives. VST Technologies' "thin" drives hold from 4GB (£279) to 25GB (£749) and fit in your hand. LaCie (0207 872 8000) sells the 6GB PocketDrive for £299. It also includes USB connections for greater flexibility.

Sometimes the simplest things can give you a big performance boost. Make sure you've installed the most-current Apple and device drivers. For Apple's latest, go to <http://asu.info.apple.com>. For device drivers, go to the appropriate vendor's site.

**Terri Stone**



**Professional presentations** Imagine you've flown across the world to pitch your brilliant business plan. You set up your PowerBook – and realize you've forgotten a crucial adaptor. Don't make the management team huddle around your unimpressive small screen – always come prepared with the right adaptor for the job. Here's what you need.

Monitors and video projectors usually connect via a VGA-style video cable. If you have a pre-3400 PowerBook, carry a Macintosh-to-VGA video adaptor. If your model is a 3400 or newer, don't forget to pack the VGA-to-Mac adaptor that ships with the laptop – it connects your PowerBook to older Apple monitors. Owners of the G3 series (Lombard and Wall Street) can use the included adaptor for S-Video to composite video.

**Incompatible bronze Mac** Owning the newer PowerBook models (starting with the 1999 Bronze G3) presents special challenges. They were the first to ship without serial and Apple Desktop Bus (ADB) ports. Apple replaced both aging technologies with Universal Serial Bus (USB) ports, alienating you from a world of perfectly functional but no longer compatible serial and ADB devices.

Two indispensable tools help owners of bronze G3s stay connected. The first is Keyspan's £69 USB Twin Serial Adaptor (AM Micro, 01392 426 473). It plugs into one of your USB ports and gives you two serial ports – an absolute necessity for connecting to many PDAs, graphic tablets, modems, and printers.

Griffin's £39 iMate (Alta Technology, 0207 622 6606) is another money saver if you've already invested in a slew of ADB devices. Plug this compact, Bondi-blue adaptor into your PowerBook and you can connect to ADB keyboards, mice, trackballs, touchpads, and hardware dongles.

### Networking sans wires

Wireless networking means you can forget about fumbling with ethernet or serial cables – go wireless instead.

Apple's wireless wonder, AirPort, consists of the £67 AirPort PC card and the £203 AirPort Base Station (Apple, 0800 600 6010). It's built into only some versions of the

iMac and iBook, the PowerMac G4, and the newest PowerBook. But this doesn't completely deal users of older PowerBooks out of the wireless game.

If you have a Wall Street or Lombard PowerBook, you can achieve a wireless solution by adding a £230 Skyline Wireless PC Card (Farallon, 01372 726 333),

AirPort aside, another wireless option is Metricom's Ricochet SX, a service that delivers a constant Internet connection for a flat monthly fee ([www.metricom.com](http://www.metricom.com)). Ricochet gives you a solid 28.8-to-33.6Kbps wireless connection via a small serial modem you attach to the lid of your PowerBook. Although Metricom doesn't officially support mobile connections, you can easily use the service while travelling at under 35 mph. Service is limited to a few US urban areas, but a 128-Kbps version of the Ricochet service is due out in 12 major markets this summer.

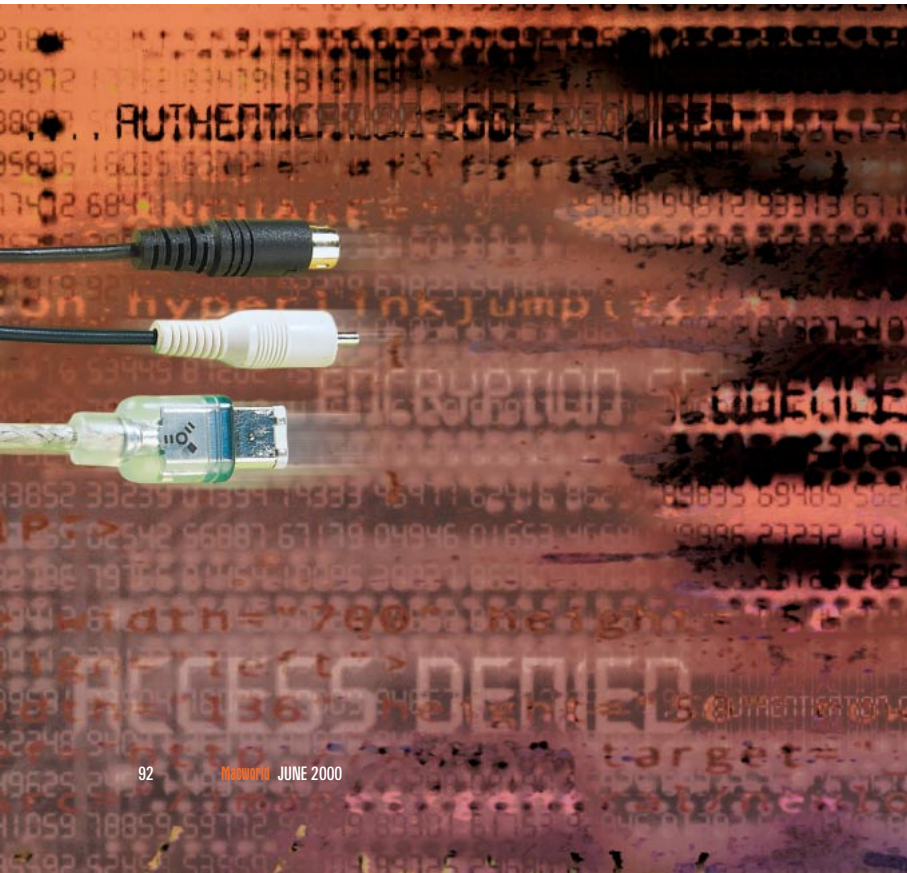
### Backup blues

We all know that backing up is a good idea, so why do we do it so infrequently? Modern PowerBooks have expansion bays that accommodate Zip and expansion-bay hard drives, which could make on-the-road backups more palatable. The internal Zip 100 drive will set you back about £159, and the Zip 250 costs £199. The expansion-bay hard drives start at £299 for the 6GB configuration. All are available at Computer 2000, (01256 868 008). For backups at the office, you can attach any SCSI – or FireWire, if you use the newest PowerBook – hard drive.

### The last word

PowerBooks let us squeeze more work out of situations in which we used to jot notes on random scraps of paper or read in-flight magazines. That doesn't mean they're free of quirks and complications. Keep our advice in mind, and your PowerBook will be sure to bring you satisfaction, and not aggravation.

**Jason O'Grady** ([jason@go2mac.com](mailto:jason@go2mac.com)) is editor-in-chief of **Go2Mac.com** and a member of the **Macworld Expo Conference Faculty**.



# The game room

Turn your old Mac into a killer custom gaming rig

Contributing Editor CHRISTOPHER BREEN writes *Macworld's* 'The game room' feature every month. He is the co-author of *My iMac* (IDG Books Worldwide, 1999).

## Hot-rod your Mac

Like any columnist who proffers opinions only slightly more controversial than the telephone directory listings, I get my share of unanswerable mail from the tragically "het up". Such missives generally run along these lines: "I herd from my secund cusin Bubba that someone on som news groop said that you were a magazin riter that said that Gallactic Space Wars was a stupid game. Well I think that your stupider! Gallactix Space Wars is really grate and if you dont know that your really really stupid!! If I had a subscripshun to your stupid magazine Id cancel it cuz your so stupid!"

Now, don't get me wrong: I love getting mail – regardless of how often people question my intelligence and morality. But other than suggesting that spelling checkers have come a long way in the past few years, how do you respond to something like the preceding? However, every so often I get a letter from a correspondent who's actually read my column, and – though its tone may be slightly confrontational – within the message lies a cogent concern.

Specifically: "I herd from my secund cusin Billy-Bob that someone on som news groop said that you were a magazin riter that said you could put a voodoo card in your Mac. I looked at my latest ishoo of MacWorld and saw that you said that to. If your so smart why dont you tell us how to do it instead of just saying it stupid!"

This reader has a point. It's easy enough for me to cavalierly mention that I've upgraded my Macs in one way or another, but unless I relate the ins and outs of doing so, you possess only a small piece of the puzzle. Allow me now to make amends by describing how I transformed my 266MHz Power Mac G3 (beige) from a hefty hunk of steaming junk into a game machine that holds its own against the latest G4s.

### Room to move

If you're a Mac gamer, you understand that computer-game publishers have the kind of gung-ho, Manifest Destiny spirit found in America's early settlers. "Move aside, lowly word processor!" modern Mac games cry. "We've got 500MB of data to plant on this here hard drive, and by gum, we mean to plant it!"

As you might suspect, I play a lot of games, and in short order, half a dozen of these massive game installations filled my Mac's 4GB hard drive to the tippy-top. I needed something roomier.

These early-model beige G3s shipped with internal IDE drives (rather than SCSI drives), which can make adding a second internal drive tricky because you can chain only two IDE drives together. Worse yet – if, like me, you have a beige G3 without a Rage Pro graphics chip, you can't add a second IDE drive at all unless you sacrifice your CD-ROM drive (the CD drive is the other IDE device on the chain) or purchase a PCI IDE card such as ProMax Technology's ([www.promax.com](http://www.promax.com); Computer Warehouse, 020 8400 1235) £220 (inc VAT) TurboMax. I had plans for my three PCI slots, and I wasn't about to give one up simply to add another hard drive.

I wanted something fast, expansive, and inexpensive, and I found it in Maxtor's ([www.maxtor.com](http://www.maxtor.com)) 27.2GB DiamondMax Plus EIDE drive. Because this 7200-rpm drive – with an average access time of less than 9 seconds and a 2MB buffer – cost only about £200, I discarded any thoughts of saving my old drive.

Moving data from my old drive to the new Maxtor drive was a cinch. I simply pulled the IDE and power cables from the CD-ROM drive and attached them to the new Maxtor drive (I placed the drive, circuit board facing up, atop the power supply inside the opened case), and then I ran Apple's Drive Setup to initialize the new drive. Once initialized, the drive appeared on the Mac's desktop, and from there I copied all the data from my old drive to the new one. With that done, I removed the old drive, installed the Maxtor in the old drive's place, and reattached the CD drive's cables.

### 3D times two

The 266MHz G3 processor inside my Macintosh is robust enough to play some fairly demanding games, but the wimpy on-board 3D-graphics chip is incapable of anything but the most basic hardware acceleration. Some of the games I cherish – Pangea's Bugdom, for example – require the RAVE hardware-acceleration



continues page 96 ►

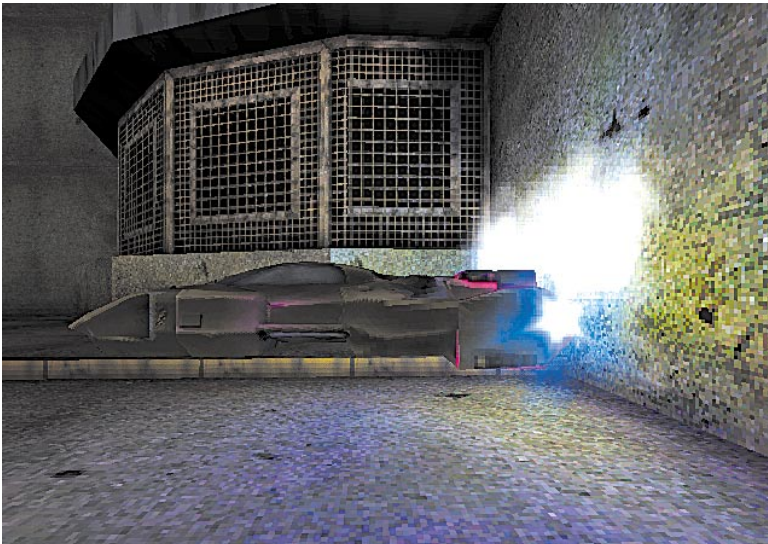


## The Voodoo you do so well

**U**nlike Voodoo3 cards, Voodoo2 cards provide a pass-through cabling scheme – you connect your monitor to the output port on the Voodoo2 card, and attach the included pass-through cable to the Voodoo2's video-input port and your Mac's (or video card's) video-output port. When a game requires 3D hardware acceleration from the Voodoo2, the Voodoo card takes over the graphics chores.

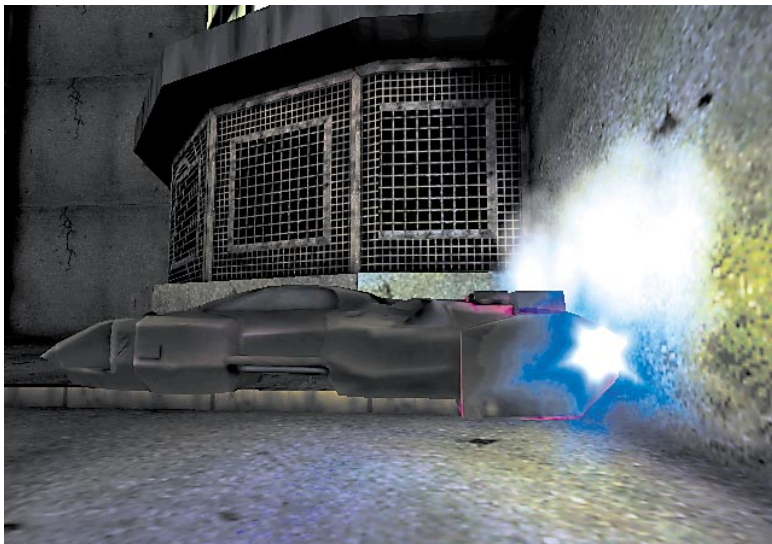
Although the Voodoo2 chip set can crank out frame rates nearly comparable to those of ATI's Rage 128 chip set, it has limitations: it doesn't support resolutions higher than 800-x-600 pixels, and it renders only 3D graphics – you still need some kind of 2D output, either from your Mac's on-board video or from an installed video card such as ATI's Rage Orion.

3dfx's Voodoo2 1000 PCI card costs less than £70, and you can find Mac drivers for it on 3dfx's Web site ([www.3dfx.com](http://www.3dfx.com)).



### Before-and-after science

The clear differences between Unreal Tournament rendered under software (above) and with a Rage 128 chip (below) should be compelling enough reason to upgrade to hardware acceleration.



API, while others prefer the Glide or OpenGL standards. I need hardware acceleration that will work with all three of these standards, and no one board currently handles them all adequately. To cover my bases, I filled one PCI slot with a Rage 128-based ATI Rage Orion card (£159; [www.atitech.com](http://www.atitech.com)) that supports RAVE and OpenGL, and I filled my second PCI slot with a 3dfx Voodoo3 2000 card (£79; [www.3dfx.com](http://www.3dfx.com)) that supports OpenGL and Glide games.

Now, hang on a second there, Jimmy-Joe – before you send off that acrimonious letter, allow me to explain: I know full well that installing these two cards requires that I either have a monitor for each card, or plan to swap the monitor cable from one card to the other on a regular basis. I'm fortunate in that I do have a couple of spare monitors, so adding a second monitor is no big deal for me – but you might not be as monitor-rich as I am. If you have a single monitor, you can play the cable-switching game or you can add a Voodoo2 card (see the sidebar, "The Voodoo you do so well").

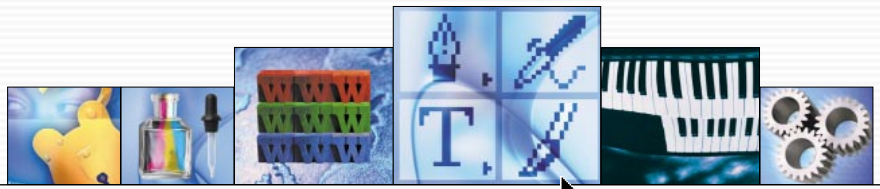
For those with dual monitors – and I should mention that you'll need two multisync-resolution (not fixed-resolution) monitors – this two-card monte isn't a bad way to go. However, there's a trick to using the Voodoo3 card. It's intended for PCs, and to use it with a Macintosh, you must update the card's ROM and install Mac-compatible drivers. Fortunately, you can find the Macintosh drivers and the FlashROM utility on 3dfx's Web site. To update the ROM you need to connect your monitor to a video source other than the Voodoo3 card, install the card in a free PCI slot, and run the FlashROMVoodoo3 utility. Instructions for doing this are in the Mac Voodoo3Drivers folder.

Most games that offer both Glide and OpenGL or RAVE acceleration will automatically choose the appropriate card and monitor – the Voodoo3 card for Glide games and, by default, the ATI card for OpenGL and RAVE games. If you want to use your Voodoo3 card for OpenGL acceleration – not a bad idea considering that at higher resolutions a Voodoo3 card seriously spansks anything ATI at present has on the market – you may have to muck about with drivers to get this to work. See News (this issue) or more on forthcoming cards from ATI and 3dfx.

For example, while testing the Quake III: Arena demo, I had to turn off the OpenGLRendererATI extension for the game to work with the Voodoo3 card. Quake II requires that you play the game on the monitor that bears the menu bar. If you want to play the game with the Voodoo3 card, open the Monitors & Sound control panel (or Monitors if you're using OS 9), click on Arrange, and move the menu bar to the monitor attached to the Voodoo3 card. Wacky.

**Fire it up** Although a 3D card offers the most bang for your gaming buck, you can boost frame rates even more with a CPU upgrade. I did just that with Newer Technology's 400MHz Maxpower G3 upgrade (£420; [www.newertech.com](http://www.newertech.com); AM Micro, 01392 426 473). On average, this upgrade bought me an extra 12 frames per second in Quake II at a resolution of 640-x-80 pixels on both the ATI and Voodoo3 cards.

**Lock it down** Not all of you have beige Power Mac G3s, so these exact upgrades may not apply to you. But they certainly indicate the steps you can take to make your Mac a finer and faster gaming machine. If you have other suggestions to offer, feel free to drop me a line. I just love reading the mail. **MW**



create : graphics

# Scan the right way

Getting a scan right before it gets to an image-editor can save time. By Ben Long

**T**hough image-editing programs, such as Adobe Photoshop, allow extensive control over images, they can also encourage bad habits when scanning originals. Because it's so easy to repair and edit an image, many people give short shrift to the scanning process. However, a little effort pre-Photoshop can not only yield better final images, but also save the time otherwise spent correcting scans.

First, choose the best material to scan. If you're planning on scanning a print – but the scanner has a transparency attachment – consider scanning the original negative instead. Film negatives and slides contain much more colour information than a photographic print, affording more latitude for colour adjustments and edits. If your scanner does a better job with reflective material than with transparencies, or if the print was manipulated or corrected in the printing process, then go with the print.

## Done and dusted

Photoshop's Dust And Scratches filter does an excellent job of removing small bits of dust, fluff, and hair from an image. An even more effective solution is to clean the scanner's platen. A quick once-over with a soft cloth, paper towel, or sheet of newspaper might be all it takes to remove tiny bits of dust that can be visible in a high-resolution scan. For fingerprints, any type of glass cleaner will work, but check the scanner manual first to be sure that the platen is cleanser-safe.

Don't just lay an image anywhere on a scanner's platen, its sweet spots can provide sharper focus and, therefore, better detail and truer colour. Scanners with particularly large platens – legal- or tabloid-size, for example – are more prone to differences in focus quality across their scanning surface. Transparency attachments on flatbed scanners are particularly susceptible to changes in quality from point to point. Of course, when an image fills the entire platen, sweet spots are irrelevant.

To test for sweet spots, select a high-quality image with good contrast, fine detail, and bright colours. Scan it several times, with the

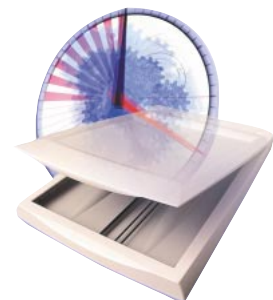


image on a different part of the platen each time. Open all the scans in an image editor, and arrange the windows so the same section of each scan be viewed at the same time. Colour reproduction should be the same in each scan. If you're using Photoshop, grab the eyedropper tool and check the colour values of the same areas of each image. Are they the same? If not, decide which is best.

Next, zoom in to a high magnification on each image and look for sharpness and focusing problems. In addition to outright blurriness, check for halos of red, green, or blue that may indicate a slight focus problem.

When one image looks better, repeat the test with a different image to make sure you've found a sweet spot.

When scanning a transparency, be sure to place the slide or negative in the scanner correctly. Most scanners require the emulsion side – the side of the slide that's less shiny – to be facedown, but check the scanners



See Test Centre, page 73

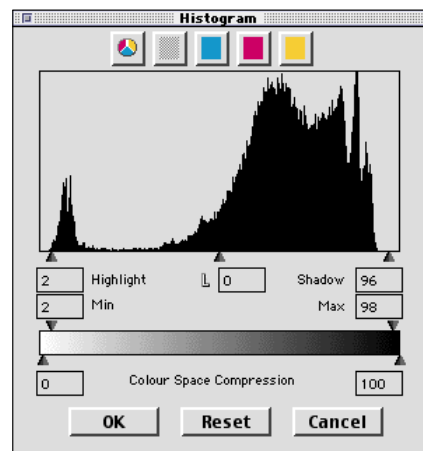
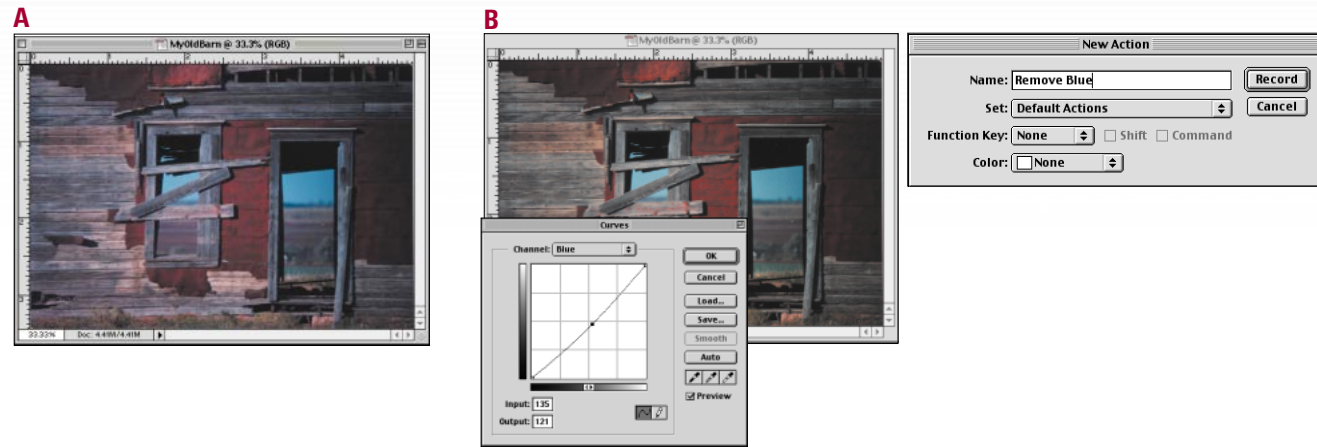
Create continues on page 100



# What to do when a scan is too blue

Some scanners regularly produce images with the same incorrect colour cast. The easiest way to resolve this problem is to alter the image in an image-editing application, such as Adobe Photoshop, after scanning. This image (A) is from a scanner

that regularly produces images with roughly the same amount of blue cast. With a simple Curves adjustment (B), the cast is removed. By recording that adjustment as an Action (C), it can quickly be applied to any image with a click of a mouse.



## Scanner controls

Most scanning software includes variations on Photoshop's Levels and Curves dialogue boxes. Though the controls look different, taking the time to learn them can result in better colour reproduction.

documentation to be sure, as some scanners work differently.

Before hitting the scan button, define some settings in the software. Most scanners include some type of Photoshop-compatible Acquire plug-in that scans directly into an image-editing application. If a scanner includes such a plug-in, it's a good idea to use it rather than a dedicated scanning application – this saves switching between two programs. An Acquire plug-in may even prevent the accidental compression of an image as it's moved from the scanning application to the image editor.

First, set the scanner to scan in colour. In fact, once the setting is made, leave it there, even when scanning a black-and-white original. Some scanners don't record as much information when set to black-&-white, so scan in colour and convert the image to greyscale later. Photoshop does a much better job of converting a colour image to black-&-white than a scanner does.

Selecting a resolution is the most important decision when configuring a scanner. Scan too low, and details will be blurry and colour dull. Scan too high, and not only will scanning and printing take more time, but the final image may also have less detail. See the sidebar, "You say you want a resolution", for more information.

When scanning a transparency, select negative or positive. Don't count on the image editor to invert the image. The scanner needs to know that a negative is a negative.

Many slide scanners include profiles for different types of film – some even allow new profiles to be created. A profile is a description of a film type's colour characteristics – scanners use the description to adjust their settings. Because different film types can have widely

varying colour gamuts, it's worth taking the time to choose the right profile. Check the scanner documentation for details.

Before scanning a slide or negative using a flatbed scanner's transparency attachment, determine whether the scanner software provides focusing controls. Most drivers include automatic focusing, and though it takes longer to make the scanner check its focus before scanning, the extra time is worth it. See the scanner's manual for details.

Also, turn off any sharpening options. Sharpening is a necessary step, but don't use the scanner to do it. For optimum quality, it's best to perform sharpening after all other adjustments and edits have been made.

## More bits

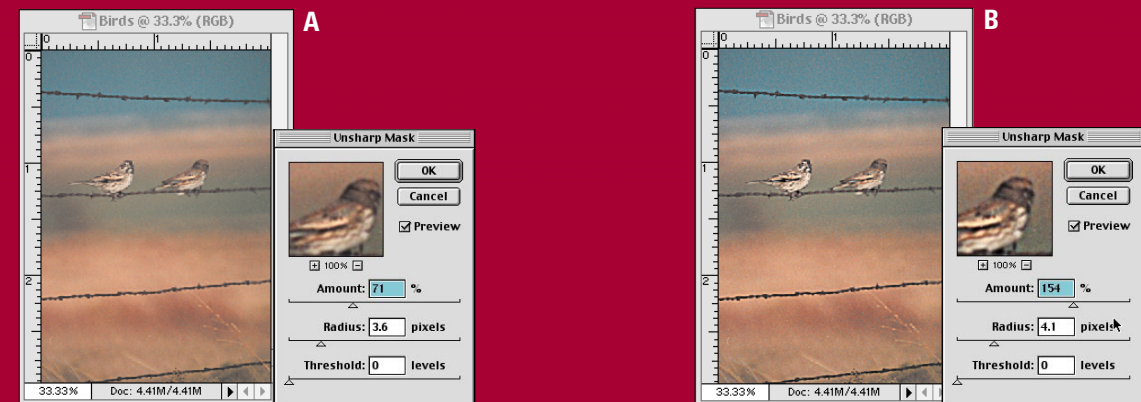
Each pixel that makes up a full-colour digital image is composed of 24 bits of colour data. So why are there 30-bit and 48-bit scanners? The additional bits may seem like marketing hype, but they can actually provide a more accurate image – if the scanning software is used properly.

Take advantage of those extra bits by using the scanning software, whether it's stand-alone or a Photoshop-compatible plug-in. Like Photoshop, the scanning software has controls for adjusting colour, contrast, and levels. However, a computer is limited to 24 bits of colour, while scanners can often process colour at greater bit depths. The scanner software's colour controls make adjustments using its larger colour space (see "Scanner controls") – it then down-samples the images to 24-bit colour. Why bother with the scanner software when the images end up at 24 bits? Because those extra bits make possible more-precise calculations and finer colour-correction control.

# Bring scans into focus

Although scanning correctly saves time, there are problems that can't be avoided. For example, even the best desktop scan is less sharp than the original. In these cases, an image editor's sharpening feature can help restore what was lost. Photoshop's Unsharp Mask filter (under the Sharpen submenu in the Filter menu) is a popular choice.

Properly applied (A), the Unsharp Mask filter improves the appearance of a fuzzy photo. But if an image is over-sharpened (B), colours alter and artifacts, such as the halo around the bird's head, appear. One cautionary note, be sure to wait until you've performed all other edits before applying sharpening.



As in Photoshop, when scanner software offers a choice of adjustment types – levels versus simple brightness and contrast adjustments – always use the levels controls. With the less precise brightness and contrast sliders, an image's white-and-blacks may be accidentally changed. Levels controls adjust contrast, while preserving white and black points.

## Perfecting corrections

Performing good colour-correction takes practice, but some general advice can help – whether using scanner software or a stand-alone image editor:

1. An image has three basic colour categories: highlights, shadows, and mid-tones. When the colour is off in an image, determine which of these categories suffers the most. A typical portrait is mostly mid-tones, with dark shadows spread here and there and highlights on the hair, nose, or glasses. If the portrait has a green cast, correct mid-tones first.

2. Once the central problem is corrected, touch up problems in other categories. In the previous example, after the greens have been removed from the mid-tones, work on the highlights and then on the shadows.

3. Be sure to check the balance of all three categories – adjusting one range of colours sometimes affects the others.

One tip, if the images are for the Web, or a device with a limited gamut, this kind of colour control can be overkill.

So, you've meticulously tweaked Levels and Curves adjustments, and maniacally calculated just the right resolution. Now it's time to preserve those settings. If a number of pictures are shot in the same location, there's a good chance that they'll need roughly the same

colour correction and adjustments. If the scanner software can't save settings as a file, at least write them down. If the location, film stock, or lighting has changed from one picture to the next, you'll probably have to start from scratch and build new settings.

After an image is scanned, save it as a TIFF or PSD file, no matter how it will be used. Though the file may be bound for the Web, Web-ready JPEG and GIF files are lossy formats – they degrade image quality – so don't convert to either GIF or JPEG until all the edits are done. And don't throw out the original scan after the conversion. If changes are made later, perform the edits in the original, and then convert to JPEG. Re-saving JPEG files removes even more data.

Scanning can introduce some annoying artifacts. If the original is a halftone image from a book or magazine, there's a good chance that moiré patterns have crept in. An image editor's Despeckle filter should remove them in one or two passes. Scanning software may include descreen functions. Experiment with these to see whether they remove the moiré, without over-softening the image.

Some scanners produce images with distinct colour casts. These can usually be removed using a simple Curves adjustment in an image-editing program. If a scanner routinely produces the same colour cast, consider building an Action in Photoshop that performs the appropriate adjustment (see "What to do when a scan is too blue").

Sharpen only after the image is resized, and converted it from RGB to greyscale. Be sure to use an Unsharp Mask filter rather than a raw Sharpen filter. Unsharp masking produces images with smoother contrast and without

# You say you want a resolution

Choosing a resolution is not as simple as it seems. The first thing to understand is that there isn't a 1:1 relationship between a dot on a screen, and a dot on a printer. So though a printer may boast 1,440 dots per inch (dpi), a scan doesn't need anywhere near that resolution.

Most printers – whether ink-jet, dye-sub, laser, or offset – have only four colours: cyan, magenta, yellow, and black. Four-colour printers lay down patterns of dots that we perceive as other colours when we view them from a distance (see “True colours”). By contrast, each pixel on a computer screen can be any one of 16 million different colours – assuming the monitor is set to display that amount.

So a printer might reproduce one dark-blue pixel on the screen by creating a pattern of dozens of cyan, magenta, and yellow dots. High-resolution printers can use even more dots, but they still represent that one pixel on a monitor. The higher printer resolution just means you're less likely to see the individual dots making up the patterns that represent colours.

If the resolution of a file is too low, the printer doesn't have enough data to accurately print detail and colour. But, if the image resolution is too high, the computer must throw out data, or down-sample, before it sends the image to the printer. Down-sampling can result in a loss of sharpness and detail, so control it when possible. Select a resolution that will provide enough data to create a good image, but not so much that the computer will average away detail when printing.

If an image's destination is an offset press, you need to know the frequency of the halftone screen the printer will use before choosing the best image resolution. This halftone frequency is usually measured in lines per inch (lpi). Magazines

and most good-quality commercial print jobs are usually printed with a halftone frequency of 133 lpi. If an image's final destination is newsprint or photocopies, the printer will probably use a halftone frequency of around 85 lpi.

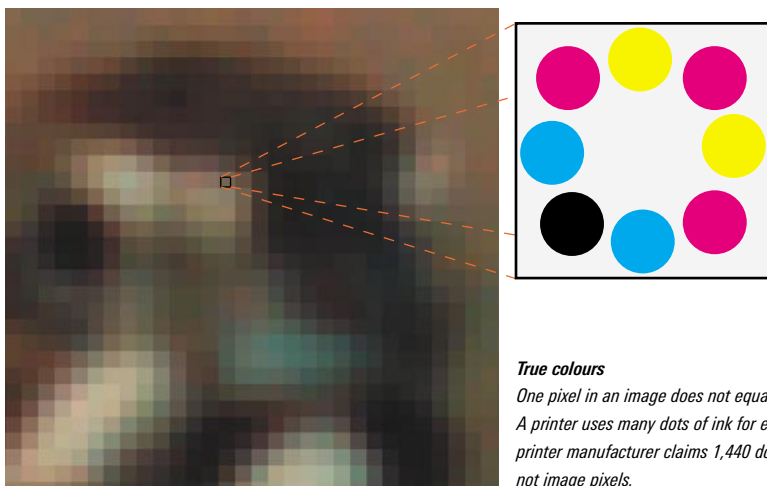
Many people recommend scanning at a resolution that's twice the final line screen. That means 266dpi for an image that's destined for a 133-lpi print job. We think it's better to go even lower – around 1.25 to 1.5 times the line screen – to ensure the image doesn't down-sample so much that it loses sharpness.

If an image is for a desktop ink-jet printer, 200dpi is usually all that's needed. This resolution also works well for laser printers, though it can often go as low as 150dpi with them.

If an image is headed for a large-format printer, rules for choosing a resolution are mostly the same as those for desktop and commercial printers. Just because the final print is, say, three feet wide and five feet long, doesn't mean super-high resolution is needed.

Large-format-printer drivers include special algorithms for scaling images up, and most do wonders with relatively low-res images. We've successfully printed 8-x-10-inch 300dpi images at massive sizes with excellent results. Consult your reprohouse for the nitty-gritty.

Scanners that can capture 600 or 1,200dpi allow an image to be enlarged. Say an image that's two inches square needs to be printed at six inches square on a desktop ink-jet printer. Because the final resolution needs to be 200dpi – the ideal ink-jet resolution – scan at 600dpi. In an image editor, resize the 2-x-2-inch 600-dpi image to a 6-x-6-inch 200dpi image with no loss of data, and no interpolation.



#### True colours

One pixel in an image does not equal one dot on the printed page. A printer uses many dots of ink for each pixel in an image. When a printer manufacturer claims 1,440 dots per inch, it means printer dots, not image pixels.

over-sharpened halos (see “Bring scans into focus”). For more on sharpening, see “Stay sharp”, Create, May 2000.

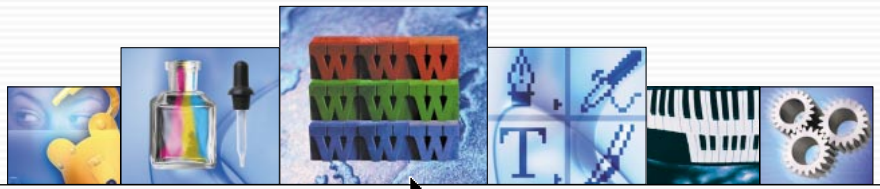
It's easy to get crooked scans from scanners. But, Photoshop's Measure tool provides a simple way to straighten them. In an image, find a line that should be horizontal. Select the Measure tool, and click on both ends of that line. Then select Rotate Canvas: Arbitrary from the Image menu. The resulting dialogue box

automatically displays the amount of rotation required to straighten the image. Click on OK, and the image is straightened.

With scanners as inexpensive as toasters, it's tempting to treat them the same way. However, scanning isn't yet as routine as making toast. Be mindful when scanning, and you'll get better results from a low-end scanner than others could with a more expensive device.

MW





create : web

# The moving image

Liven-up Web pages with simple animations. By Sandee Cohen

As a long-time print person my motto used to be: "If it moves, step on it." But that was before I discovered the joys of GIF animations. Seeing my artwork move, fade, and change appearance was thrilling. I even started watching the Cartoon Network to pick up animation tips.

But despite the pleasing results, creating those first animations was no picnic. I used Macromedia Fireworks 1, which required a cumbersome set of steps to set up an animation, and couldn't play files without opening a special Export dialogue box. Fortunately, Fireworks 3 is a powerful, sophisticated tool that makes it easy to turn artwork into animations.

Fireworks is a frame-based program — meaning an animation is composed of any number of frames, each displaying a slightly different image. The concept is similar to a flip-book — an object changes from page to page, or from frame to frame, to create the illusion of movement. Adobe After Effects and Macromedia Flash are timeline-based, which makes them much more powerful than frame-based animation programs, but harder to understand and use.

Fireworks uses layers. As in Adobe Photoshop, layers control the vertical stacking of objects in a file. In Fireworks, each frame can have several layers, and each layer's content and visibility can be changed. If, for example, you want to make the word "help" blink on and off, it can be placed in layer 1 of all frames, but make that layer invisible in alternating frames. By hiding the layer rather than deleting it, it can still be changed later. Layers can be shared across frames either manually or automatically.

Animations can be produced by manually placing an object on each frame and changing its position by hand, but it won't take long for your patience — and mousing hand — to give out. It's much easier to take advantage of Fireworks' symbols and instances.

Any object can be a symbol — simply select it and choose Insert-Symbol. This designates it the master or parent of all copies, called instances, of the object. Rather than copy and paste an object onto each frame, use the Tween



Instances command to distribute instances automatically across frames.

That's useful enough, but Fireworks' tweening capabilities go even further. The Tween Instances command can also fill in the steps between two instances. Say one instance of a floral bouquet is placed in a frame's bottom left corner, and another instance in the next frame's top right corner, just tween the two instances, and Fireworks adds frames between them. The final animation will show the flowers gradually moving from corner to corner. (See the sidebar "Animate with symbols".)

A wide range of symbol attributes can be tweened in Fireworks 3. Not just the flower instances move from corner to corner, but differences in the size, rotation, and skew of two instances can also be animated. Their opacity can be altered so that, when tweening them, an object appears to fade in or out.

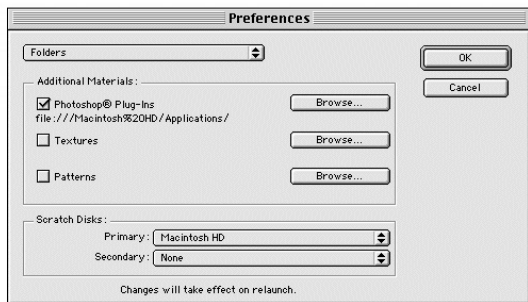
Fireworks 3 features Live Effects that offers new opportunities for animation. Drop shadows can move, glows can fade in and out, instances can go in and out of focus, and

Create continues on page 106 ▶

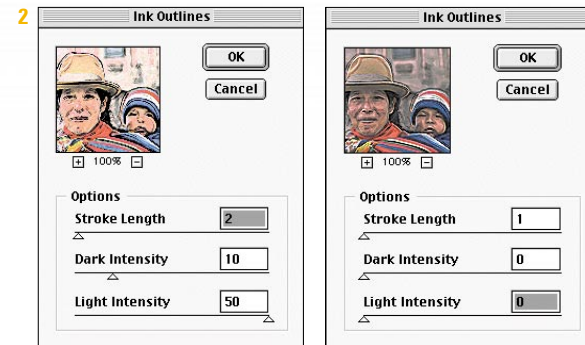
# Animate Photoshop filters

In Fireworks 3, Photoshop filters can be applied as Live Effects and animated. For the final animated GIF, see [www.macworld.co.uk/create](http://www.macworld.co.uk/create).

1. Start with a bitmap image. Make it a symbol, and copy an instance of it to a frame. Use the Preferences dialogue box to point to the Photoshop Plug-ins folder – adding the plug-ins to Fireworks. A few filters, including Lighting Effects, won't work.

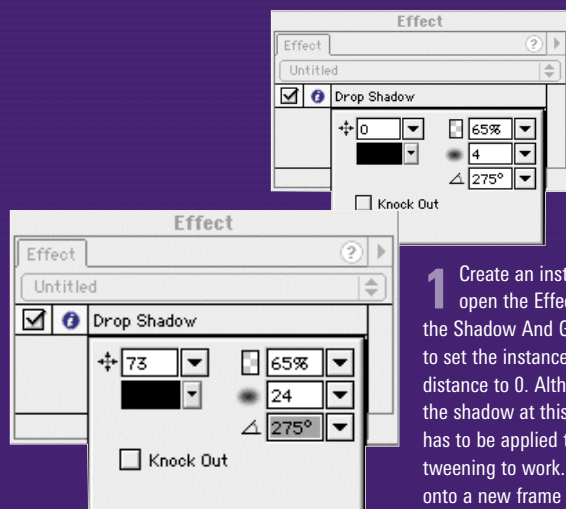


2. Choose a Photoshop filter and apply it at a very low setting to the instance of the image. In this example, I've applied the Ink Outlines filter to the image. Duplicate this instance and change the filter to a higher setting.
3. Tween the two instances and distribute the intermediary instances to frames. The result looks like a photograph changing into a sketch.

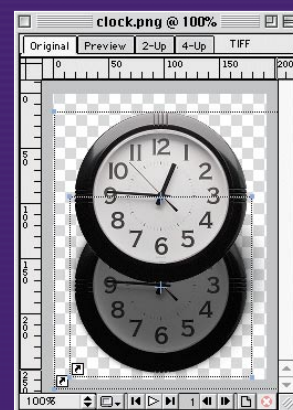


# Animate Live Effects

Fireworks effects such as Drop Shadows and Bevels aren't just for still images anymore. For example, an object can be animated to make it look like it's moving toward the viewer as its shadow moves away. For the final animated GIF, see [www.macworld.co.uk/create](http://www.macworld.co.uk/create).



- 1 Create an instance of an object, open the Effect palette, and go to the Shadow And Glow drop-down menu to set the instance's Drop Shadow distance to 0. Although you can't see the shadow at this setting, an effect has to be applied to both instances for tweening to work. Copy the instance onto a new frame and set its Drop Shadow to 73, the final distance.



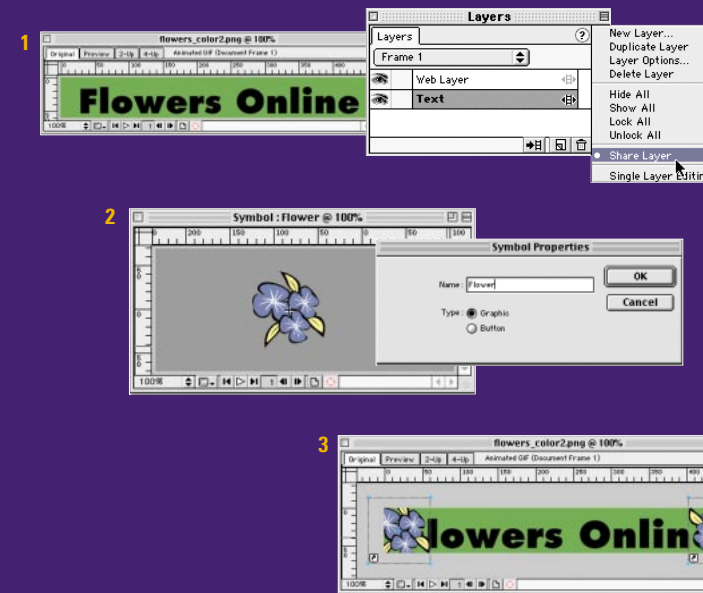
- 2 Select both instances and go to Modify-Symbol-Tween Instances. Enter a number of frames appropriate for the effect needed. The new instances fill in the intermediate distance settings for a moving-shadow effect.



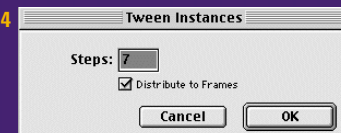
# Animate with symbols

Fireworks' symbols and instances make it easy to create animations. Here, I show how to rotate an object. For the final animated GIF, see [www.macworld.co.uk/create](http://www.macworld.co.uk/create).

1. Put the object that will appear on all frames on its own layer, and choose Share Layer from the Layers palette's pull-down menu.
2. Create a new layer to hold the objects to be animated. Then choose Insert-New Symbol. Name the symbol in the Symbol Properties dialogue box, and then paste existing artwork into the Symbol window or create it directly in that window.



3. Close the Symbol window. An instance of the symbol automatically appears in the main window. Position this instance where the animation will start. Copy the instance, and position the copy where you want the animation to end. Select the second instance and go to Modify-Transform-Rotate 180 Degrees.
4. Select the two instances and choose Modify-Symbol-Tween Instances, then set the number of steps. Select Distribute To Frames to put all the intermediate steps on their own frames. The tweened instances fill in the spaces and rotate the flower.



objects' hues can change. (See the sidebar "Animate a live effect"). Photoshop filters can even be applied to instances for unusual, artistic animations. (See the sidebar "Animate Photoshop filters"). For a different effect, import blends from Adobe Illustrator or Macromedia FreeHand to simulate one shape morphing into another. (See the online sidebar, "Morph shapes from vector objects," at [www.macworld.co.uk/create](http://www.macworld.co.uk/create)).

With Fireworks 3, the animation process can be sped-up by automating steps with JavaScript commands. There are two ways to create these commands. The first is to use Fireworks' History panel to record any actions and then save them as a command. This method has a limitation: if commands are repeated several times, they must be recorded manually for repetition in the original history. (See the online sidebar, "Study animation history," at [www.macworld.co.uk/create](http://www.macworld.co.uk/create)).

Fortunately, if you're not afraid of a little JavaScript programming, a command can be whipped-up without having to add every frame, and go through each action manually. Several commands ship with Fireworks – just look in the program's Commands folder – and these can be modified in a word processor. Say you open the command that adds 12 frames and

rotates an object 30 degrees. The phrase `// Add frames for the animation var kNumFrames = 12;` in the command tells the application to add 12 frames to the animation. To add a different number of frames, simply change the number. The phrase `var angle = 30;` controls the size of the rotation. Change the 30 to, say, 10, and rotation is set to 10-degree increments.

Once any existing command is modified, save it as a text-only file and place it in Fireworks' Commands folder. The modified action will appear under the Commands menu.

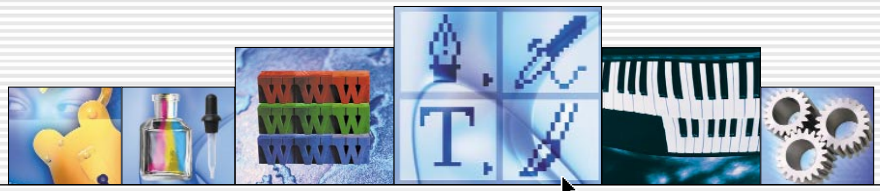
JavaScript may not be needed at all. Many people create commands and post them for others to use. Check out Massimo Foti's [www.massimocorner.com](http://www.massimocorner.com) and Kleanthis E's <http://projectzero.webhostme.com> for a bevy of pre-written commands.

Although Fireworks has come a long way, there's still room for improvement. For example, unlike Flash 4's, its tweened animations aren't live – to change a first or last instance, the entire animation has to be recreated. But, Fireworks 3 does provide Web animators with an impressive array of well-designed tools.

MW

Sandee Cohen is the author of *Fireworks 3 Visual Quick-Start Guide* (Peachpit Press, 2000).





create : graphics

# Saturation point

Improve the results of Photoshop's Difference mode. By Cathy Abes

**Y**ou can get startling, even psychedelic, effects in Adobe Photoshop by using the program's blending modes – which determine how colour information on two different layers interacts when the layers are combined.

Some blending modes – such as the aptly named Normal – produce ordinary results, while others give you a radically changed image. One of the most popular is Difference mode, that produces highly saturated colour. The problem with using such a popular mode, though, is that its effects are so predictable, they're easy to spot in an illustration.

## Vive la différence

Graphic designer and photo-illustrator Alicia Buelow is an ardent fan of the Difference mode, but she doesn't like the idea of using it as a one-effect-fits-all mode, because it's likely to rob her illustrations of their individuality. And while she appreciates the dramatic effects this mode can provide, Buelow doesn't like its colourful excesses.

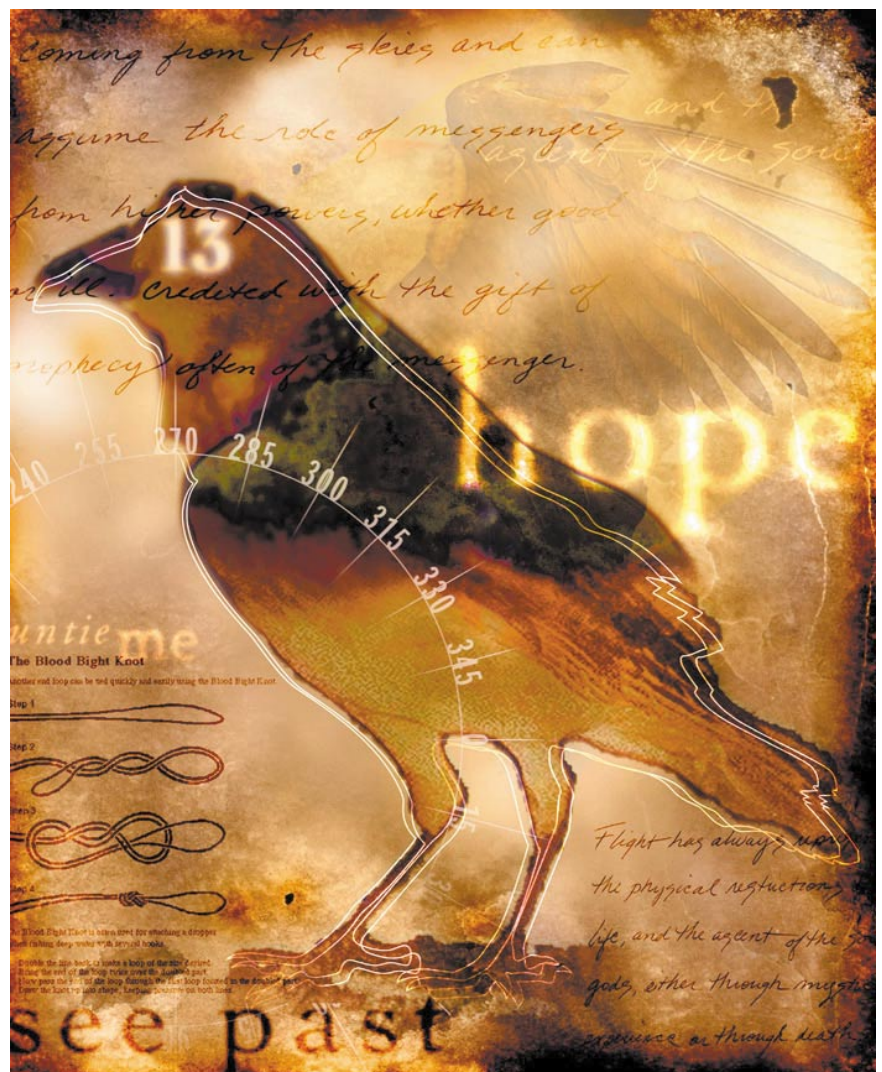
She gravitates toward a palette of earth tones rather than the intense blues and greens characteristic of Difference. Fortunately, Buelow found a way to make Difference behave differently. She devised a technique involving copy-&-pasting images that lets her tone down the mode's effect (see Step 4).

## Self-suiting

In this image, Buelow used some judicious customizing. The image of the crow retains the dramatic effect offered by the Difference mode, but has an earthier, more natural, colour palette.

Buelow designed *Ascendence* as a self-promotional piece, using Photoshop 5.5 on a 333MHz Power Mac G3 with 256MB of RAM. She's a former Adobe employee who has worked with Photoshop and Illustrator since the early days of both programs. **MW**

Cathy Abes is the author of *Photoshop F/X* (Ventana Press, 1994).



**Ascendence** by Alicia Buelow

Create continues on page 110

# How it's done

**1** After creating a background, Buelow pieced together the crow image from three photos – two of her own and one stock photo – and added it to a layer on top of the background. She made the crow image a single colour by selecting



Colourize in the Hue/Saturation dialogue box. To make the crow blue, so it would stand out against the brownish gold background, she moved the Hue slider about half-way to the right.

**2** Buelow inverted the crow layer (Image-Adjust-Invert) and then applied Difference blending mode at 100 per cent opacity. Inverting the crow image before applying Difference mode produced a more dramatic effect than if she had used Difference mode alone.

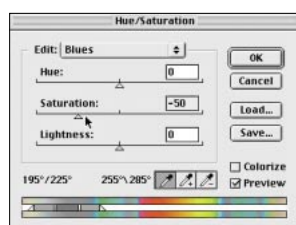


**3** The next step was to get a psychedelic effect that she could later tone down. To do so, Buelow selected the crow layer, duplicated it, and merged the duplicate and the original with both layers set on Difference blending mode. As expected, the result was an overly saturated and unnatural-looking bird, but one with some desirable effects.

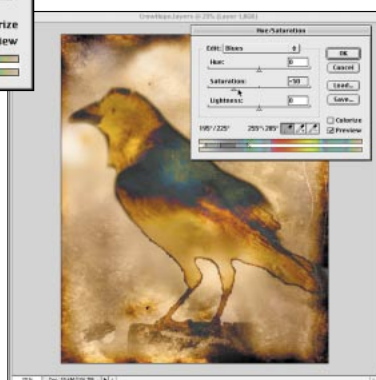


**4** Once a layer is set to the Difference mode, you can't get rid of the saturated colours without losing the high-contrast effect. Buelow devised a way to work around this. To begin, she saved a copy of the image as a flattened Photoshop file. With the layered image still open, Buelow opened the flattened image, and selected the crow by going back to the layered image, choosing the marquee tool, and ⌘-clicking on the icon of one of the crow layers. Then

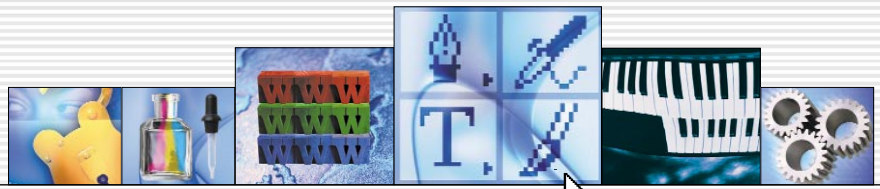
she clicked inside her selection with the marquee tool, and drag-&-dropped the selection over the crow in the flattened image – automatically selecting the crow in the flattened image. Finally, she copy-&-pasted the crow from the flattened image into the layered image.



**5** Now that Buelow had an image that looked like it was in Difference mode, but was actually in Normal mode, she could select that image's layer and adjust colours – in the Hue/Saturation dialogue box – without losing the high-contrast effect.







create : graphics

# Behind the scenes

Background layers are a crucial part of any illustration. By Cathy Abes

A background is usually just that – something that recedes, that doesn't catch your eye because you're too busy looking at an image's focal point. But, that doesn't mean a background has to be dull, flat and lifeless. Just ask artist Steve Campbell – grand-prize winner of 1998's Macworld Expo Digital Art Contest – who puts as much thought into a background as he does into the other elements of his work.

## Old and new

His program of preference is MetaCreations' Painter, well known for its natural-media brushes that can simulate traditional painting techniques. He began the image shown here – a self-promotional piece – using Painter 5 on his Power Mac 8500, but decided to finish it in Painter 6. He found the newer version's adoption of Adobe Photoshop-like layers made it easier for him to build this illustration's multi-textured background.

Instead of compositing layers, previous versions of Painter relied on floaters – discrete images that float above the canvas – which are more difficult to keep organized.

## Clouding the issue

Campbell started the image's background with a photograph of clouds, to which he added a gradient mask – black at the top, white at the bottom. After adding a second copy of the cloud photo, he added more layers, applying a distortion filter, two paper textures, a colour gradient, and a pattern he'd created in Terrazzo – a Photoshop plug-in from Xaos Tools. The result is an organic-looking background suggestive of translucent glass. It has elements of each layer showing through to create a textured surface.

MW

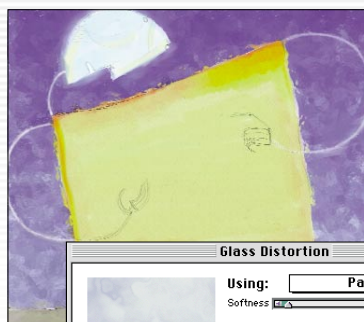
Cathy Abes is the author of *Photoshop F/X* (Ventana Press, 1994).

Create continues on page 114 ▶



# How it's done

**1** Campbell's first step in creating a background for his illustration was adding a cloud image behind the foreground images. He made a user mask – similar to a Photoshop alpha channel – to mask out the foreground elements, and then added a cloud photo as a layer. Next, he copied the user mask to that layer's visibility mask – similar to a Photoshop layer mask.



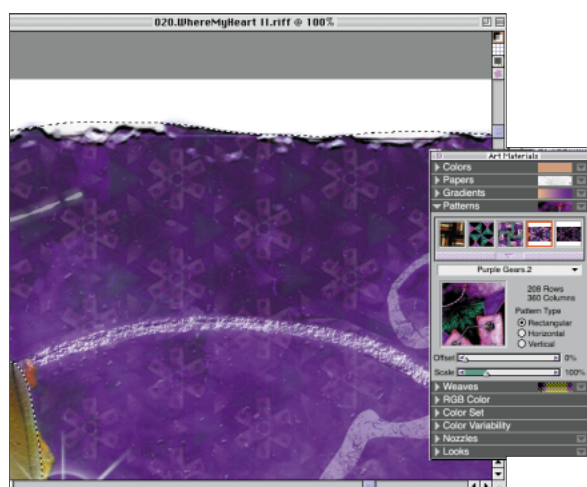
**2** The rest of the process of making the background involved adding layer after layer of texture. For instance, to produce this image, Campbell applied the Glass Distortion filter to the cloud-photo layer using the settings shown here.

**3** To add another texture, he produced a black paper texture showing through a black-to-white gradient mask. This required creating a new layer, loading the gradient mask as a selection, and choosing the new layer. Then applying black to the layer using the Color Overlay filter and the Hand Made Paper texture. To make only the lightest areas of the layer show, he combined the layer and the existing background using the Lighten composite method.



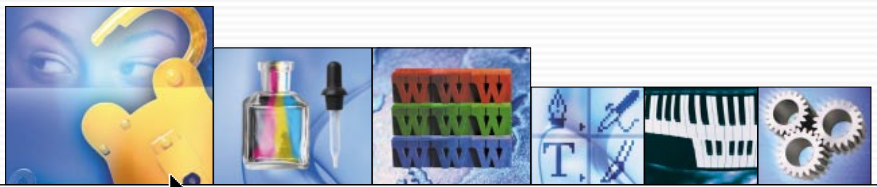
**4** Because the clouds were almost completely hidden by all the filtering and layering, Campbell reinserted the original cloud photo as a new layer. Next, he copied the original user mask (from Step 1) to that layer's visibility mask. He altered the colour

of the entire background by applying a dark-blue-to-peach vertical gradient to another new layer. He then copied the original user mask to the dark-blue-to-peach layer's visibility mask, combining this layer and the existing background.



**5** Campbell used the black-to-white gradient mask to create a selection that would allow pixels from other layers to show through the upper area of the background. Then he applied a pattern – which he'd created in Terrazzo – as a fill from Painter's Effects menu.





secrets / Q&A

# Voice control

Mac OS 9's Voiceprint is the stuff of science fiction. By Ted Landau


Your Mac starts-up, and and demands a spoken password before opening anything on the hard drive. Taking a cue from The Matrix, you reply: "There is no spoon". The Mac recognizes the unique characteristics of your voice and allows access. This is no science-fiction scenario – it's possible today with Mac OS 9.

The Multiple Users control panel, new to OS 9, features Voiceprint, which supports spoken passwords. Overall, Apple has done a great job of making Voiceprint verification reliable and easy to use. Still, there are a few things that can go wrong. To learn the basics of using this new password system, see "Setting up Voiceprint".

Don't make a Voiceprint phrase too short

or the Mac may have trouble recognizing it. In fact, if an error message appears saying you spoke too softly, a short password could be the real problem. Also, don't use a typed password as a spoken phrase, or everyone in hearing distance will be able to access your hard drive.

Stop talking before hitting the Stop button, otherwise, an error message will appear that says you've clicked on the Stop button too soon. This message may also appear if there's too much extraneous noise when the Stop button is clicked. In both cases, the software assumes the phrase isn't finished. If a new fanless iMac gives this error, Apple says it may be caused by the

page 118 

## Setting up Voiceprint

Finding complete instructions on setting up a Voiceprint password isn't easy. Apple has glossed over important details. Here's a full set of instructions, and how to get past some tricky bits.

1. Open the File Sharing control panel and type in a user name and a password – distinct from a Voiceprint password.
2. Open the Multiple Users control panel and enable Multiple User Accounts by clicking on the On button at the bottom of the window.
3. Click on the Options button. Under the resulting window's Login tab, check the Allow Alternate Password check box. Click on Save to go back to the main Multiple Users window.
4. Select your name from the Multiple Users window and click on the Open button. Select the Show Setup Details option.
5. Click on the Alternate Password tab (see "Create Voiceprint"). If the tab is dimmed, the Allow Alternate

Password check box in step three probably hasn't been checked.

6. Click on the Create Voiceprint button and type in the password you used in the File Sharing control panel.

7. When the return key is hit, the Voiceprint Setup window appears (see "Do your own thing"). Click on either the Change Phrase or Continue button.

8. The next step is to record your password four times. To begin, click on the Record First button (see "Record your phrase"). Click on Record in the resulting dialogue box and speak the password clearly. Click on the Stop button when finished.

9. Finally, click on the Done button to return to the previous window, where the button will now say Record Second. Repeat the procedure three more times. Voilà – you're now ready to use your Voiceprint password at the next log-in.



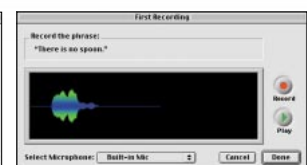
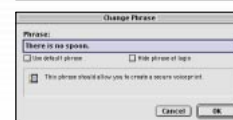
### Create Voiceprint

Once you get to this screen, making a Voiceprint password is easy. Start by clicking on the create Voiceprint button.



### Do your own thing

Click on the change phrase button to use your own password phrase.



### Record your phrase

Voiceprint gains accuracy in distinguishing your unique voice pattern by comparing four separate recordings.

### Quitting QuickTime connections

**TIP** If you have used the QuickTime Updater application to update QuickTime's components, you may be familiar with error messages that cause the programme to quit – especially frustrating when nearing the end of a long and expensive download.

However, all is not lost. If you immediately re-launch the application and select continue, the updater will continue from where it left off. Although the progress bar will return to the very beginning, the number of components to be updated will be reduced.

Gordon Low

### Multiple log-ins at start-up

**Q** Every time I start up my Macintosh with Mac OS 9, three separate dialogue boxes ask if I want to connect to the shared folder on the other Mac on our home-office network. I have to click Cancel three times to get past them. Why?

Bob Stoffer

**A** You can fix this problem by opening the Servers folder, inside the System Folder, and removing the aliases of the shared folder – which is a server volume. Mac OS 9 connects to the server volumes that have aliases in this folder at start-up.

Removing the aliases will take care of the problem for now, but it's likely to crop up again unless you manually change one step in the shared-folder-connection process. Whenever using the Chooser to connect to the folder, in the last step of the process you can check a box next to the shared folder's name. This tells the Mac to mount it at start-up. Selecting this option puts an alias in the Servers folder. If the Servers folder already contains an alias for a particular shared folder, the system creates another alias with a slightly different name. Multiple aliases for the same server volume result in multiple connection attempts during start-up or log-in.

If you want to stop all automatic server-connections on a Macintosh with OS 8.6 or earlier, use a different method. Remove the AppleShare Prep file from the Preferences folder – inside the System Folder. Then use the Chooser to reinstate the particular automatic server volume connections that you do want.

### Mount iDisk at start-up

**TIP** Do you like iDisk Internet storage, available at Apple's new iTools Web site (<http://itools.mac.com>), enough to want iDisk automatically mounted at start-up? Russell Hearn discovered that this can be set-up through Mac OS 9's Chooser. First open the Chooser window and click the AppleShare icon, and then click the Server IP Address button. In the dialogue box that appears, enter [idisk.mac.com](http://idisk.mac.com) and click Connect. In the resulting AppleShare dialogue box, enter your iTools member name and password, and then click Connect. The next dialogue box lists the iDisk volume. If the check box next to that volume's name is selected before clicking OK, your Mac will mount iDisk at every start up. If the Multiple User Accounts option is turned on in the Multiple Users control panel, every time someone logs onto your Mac, it will try to connect to the iDisk volume. But, users won't be able to mount iDisk unless they know your iTools password.

This all works because an iDisk volume is an AppleShare server volume, similar to a shared folder on another Mac on a local network. But iDisk, unlike other server volumes, requires Mac OS 9 for password authentication. This process is necessary, even though it's a bit inconvenient – it doesn't let an iTools member name or password to be added to a Keychain, and the password can't be changed.

An iDisk connection is limited to 60 minutes, and it could slow down your computer – especially with a modem connection – so put

away iDisk as soon as you're finished. iDisk can also be mounted using Mac OS 9's Network Browser, but unlike the Chooser, it doesn't mount server volumes automatically. However, iDisk can be mounted automatically by putting an iDisk alias in the Servers folder, or the Startup Items folder – both are inside the System Folder. If you have trouble disabling automatic mounting later, see "Change default Web browser" (below).

### Using QuickTime's control strip

**TIP** QuickTime 4.1's control strip module makes launching the QuickTime player or PictureViewer easy, but the easiest way to open files which are supported by QuickTime 4.1 is to drag-&-drop the files onto the QuickTime control strip.

Tomoyuki Konno

### Change default Web browser

**Q** When I open a Web site found with Mac OS 9's Sherlock, my Mac uses Microsoft Internet Explorer by default. How do I switch to Netscape Communicator?

David C. Ripley

**A** You need to change the Default Web Browser setting at the bottom of the Web tab in the Internet control panel. If there aren't any tabs in this control panel, click the Edit Sets disclosure triangle so that it points down. Other applications besides Sherlock, such as the Browse The Internet application that normally has an icon on the desktop, use the Default Web Browser setting. In addition, some email programs, such as Microsoft Outlook Express, use this setting for links in email messages – specifically for URLs that begin with <http://>. However, the Mac does not use this setting for links to secure Web pages – whose URLs begin with <https://> – if the links are in any program other than a Web browser. The setting that controls these links is buried under the Advanced tab of the Internet control panel (see "Link to secure sites").



### Link to secure sites

In Mac OS 8.5 through 9, you can change the default Web browser for links to secure Web sites. To do so, set the Internet control panel's User Mode setting to either Advanced or Administration (choose Edit-User Mode to change this setting), so you can see the Advanced tab. Under the Advanced tab, click the Helper Apps icon and change the assignment for the https URL type.

### One more shutdown reminder

**TIP** Still haven't found the right way to remind yourself to turn off your monitor at shut down? Chris Lambert suggests creating a simple AppleScript application that speaks a reminder. This requires the text-to-speech software that's installed as part of Mac OS 7.6 and later. Start by opening the Script Editor program. If you have any Mac OS version between 8.5 and 9, enter the following AppleScript statement in an empty script window: say "Don't forget to turn off your monitor!" using "Ralph"

This script will make your Mac speak the quoted text aloud using the voice of Ralph. The text can be changed whenever, and a different voice can be selected. If you're not sure which

instead. Yup, a typed password works, even with Voiceprint enabled. Comforting to know in case of laryngitis.

### Well protected

Voiceprint is the flashiest component of Multiple Users' beefed-up security. In fact, with the arrival of Mac OS 9, there are more protection options than with any previous Mac OS. However, the arrival of Mac OS 9 also means bidding adieu to a couple of older security features.

An indication of missing features is the dimmed-out Protect System Folder and Protect Applications Folder items in the General Controls control panel. They can't be selected, which is Apple's not-so-subtle way of saying that you should now use the Multiple Users control panel to obtain this protection.

### Control panels for limited users

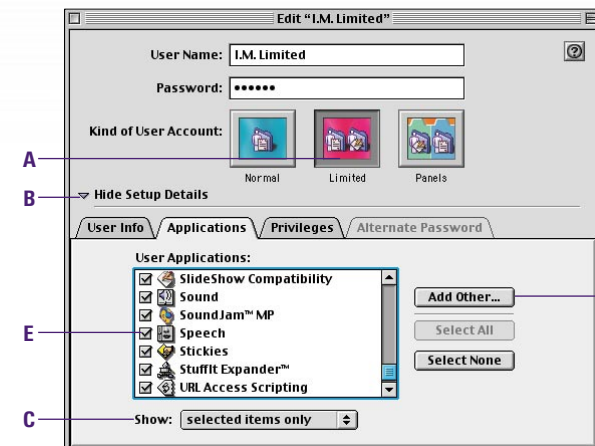
**TIP** Need to set up a limited user account – with access to some control panels but not others – in Mac OS 9? At first perusal, the only options in the Multiple Users control panel appear to be access to all, or access to none. Doug Steinhoff discovered a workaround. Here's what you do.

1. Open the Multiple Users control panel and create or open a user account. Then click the Limited button (A).
2. If you don't see the set-up details at the bottom of the control panel, click the triangle next to Show Setup Details (B).
3. Click the Privileges tab and turn the Control Panels option off – rather than on.

4. Click the Applications tab and choose Selected Items Only from the Show pop-up menu (C). This is important – if you choose either of the other options from this pop-up menu, this procedure won't work.

5. Click the Add Other button (D). In the dialogue box that appears, select a control panel that you want to allow access to, then click Open. The selected item appears in the User Applications list (E). Repeat this step to give the user access to other control panels and programs.

The limited user will now be able to access the selected control panels through the Items folder, which normally has an alias on the user's desktop.



voices are available, open the Speech control panel, set its Options pop-up menu to Voice, and then check out the Voice pop-up menu.

If you have a version of the OS between 7.6 and 8.1, the speaking voice can't be specified,

so omit the last part of the script. Also, change say to speak. Once the script is written, save it in the Shutdown Items folder. In the Save dialogue box, set the Kind option to Application and turn on the Never Show Startup Screen option.

noise of the iMac's hard drive. Apparently, a fan would mask the noise. There isn't much you can do except try again, and keep extraneous noise to a minimum.

### Can't hear you

If a "No microphone found" error message appears at log-in, even though the microphone is plugged-in, it may be that you don't have a compatible version of Apple's Speech Recognition software installed. Version 2.0.1 – which comes with Mac OS 9 – or a newer version is needed for Voiceprint passwords to work. To check the version number, open the Get Info window of the Speech Recognition extension.

Switching microphones can also lead to trouble. If the microphone being used now is different from the one you used to record a

Voiceprint phrase, the "No microphone found" error mat appear. The fix is simple – re-record the Voiceprint phrase using the current microphone.

If you ever change the password in the File Sharing control panel, you'll have to change the password in the Multiple Users control panel to match it – or else Voiceprint won't work. If you change your name in the File Sharing control panel, you'll have to start from scratch and re-record your Voiceprint phrase.

Altering the tone of your voice or changing the syllables you emphasize can prevent the software from making a match at log-in. If your Mac fails to recognize the phrase, try to repeat it exactly the way it was recorded. If this still doesn't work, don't panic – after three rejections, a prompt appears asking for your typed password

If the At Ease software is missing, this is no mistake. Once the Multiple Users control panel is installed in the System Folder, even if it's not turned on, the Mac OS trashes At Ease.

This might all be fine if the Multiple Users feature were capable of the heavyweight security often needed in schools and other public places. But, it isn't. It's easy to get past Multiple Users' protection simply by starting up from a bootable CD, such as any Mac OS system-software CD. If Multiple Users isn't adequate for your security needs, turn to AppleShare IP or Mac OS X Server – it's the only way to be sure.

**Ted Landau covers the latest Mac OS 9 tips and fixes on his MacFixIt Web site ([www.macfixit.com](http://www.macfixit.com)).**

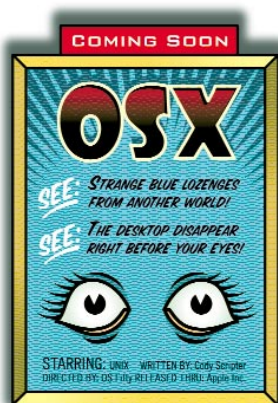
Macworld's deputy editor David Fanning and contributing editor Lon Poole answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to David Fanning, Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send mail electronically, marked Q&A in the subject line, to [ganda@macworld.co.uk](mailto:ganda@macworld.co.uk). We pay £25 for each tip published here.

We cannot make personal replies, so please do not include a stamped-addressed envelope.



**DAVID POGUE** is the author of *iMac for Dummies* (IDG Books Worldwide, 1998) and the *Great Macintosh Easter Egg Hunt* (Berkely Books 1998). He also wrote *Macs for Dummies*, fifth edition, updated for Mac OS 8, *The Weird Wide Web* (IDG Books Worldwide, 1997) and *The Microsloth Joke Book* (Berkeley, 1997).

## X in one basket?



**M**ost stage performers would be delighted to turn in a performance that had people talking a week later. But at January's Macworld Expo, Steve Jobs unveiled Mac OS X – and gave a performance that had the Mac community reeling for months. Here was a radically different OS – one whose underpinnings were based on Unix, the same system that runs your bank, airlines, and government – that looked like the gorgeous, futuristic offspring of Kai's Power Goo and Colgate's Berrylicious toothpaste.

To this day, many Mac fans' euphoria and fear show no signs of abating. To see what all the fuss is about, visit [www.apple.com/macosx/aqua.html](http://www.apple.com/macosx/aqua.html) for some pictures and movies of this new interface (named Aqua). While you're online, visit some of the Web sites that take a critical look at the new design. They include the mostly pessimistic thoughts of interface guru Bruce Tognazzini ([www.asktog.com:80/limit.html](http://www.asktog.com:80/limit.html)) and the mostly optimistic thoughts of "iGeek" columnist David Every ([www.macweek.com](http://www.macweek.com)). The thing is, most of the criticism concerns the Aqua look – not Mac OS X as a whole. That's like critiquing the deck chairs on the *Titanic*.

When Jobs did his demo, a sudden panic struck observant audience members: in Mac OS X, there's no hard-drive icon on the screen! In fact, no icons show up on the desktop when you insert discs. Instead, you have to click on an icon called Computer to see your disk icons. What is this – Windows?

Suddenly, the Mac faithful became intensely aware of just how different Mac OS X is going to be. It's a completely new OS, lacking many of the standard Mac features we've come to love.

Ever since that day, I've spent a lot of time studying Apple's demos, querying developers, and asking questions of experts such as Scott Anguish, who runs the Stepwise Web site for Mac OS X developers ([www.stepwise.com](http://www.stepwise.com)) as well as its free mailing list. Here are the answers I've unearthed. Consider this an effort to quell the panic – or rather, to direct it at issues really worth worrying about.

Let's start with extensions; they're unequivocally gone in Mac OS X. Good riddance, I say; extensions are the biggest cause of instability and crashes. In their place are more rugged Mac mechanisms that

resemble background applications – and can't lock up your machine.

The Apple and Application menus, the two screen cornerstones of the current Mac OS, disappear in Mac OS X, too. In their place, Apple offers the Dock – a row of icons at the bottom of the screen. You install new "Apple menu items" by dragging their icons onto the Dock; you also switch between running programs by clicking on their Dock icons. This is the part Apple will have to fix.

Mac OS X does away with almost every Mac OS 9 compact file-listing mechanism: the Control Strip, pop-up windows, Application Switcher, Launcher, and of course the Apple Menu. The Dock is only one layer deep. It can't come close to replacing all of those other organizing structures. Then there's the desktop – yes, the glorious place mat that has defined the Mac for so many years. As OS X stands now, the desktop is gone. The only things you can put onto your screen backdrop are aliases; you can't save or download files directly onto it. Because there's no real desktop, you also lose features such as clipping files, Internet location files, and desktop printer icons. And speaking of icons, labels and custom icons are apparently history, too.

Now, Apple's entire purpose in creating Mac OS X was to build the most stable, trouble-free OS in the world. If one Mac OS X application crashes, your others keep flying high; thanks to OS X's Unix-like underpinnings, the days of restarting the Mac after a crash are over. So the real question is: How much are you willing to sacrifice in order to gain the juicy stability (and the stunning animated visuals) of Mac OS X? How badly will you miss the familiar features that are different or absent in Mac OS X? I'm not among the panickers; there are still plenty of reasons for optimism. First, the finished Mac OS X is still months away; nothing is set in stone. Second, Apple may not care what we, the users, think – but it does listen when software companies and huge accounts grumble, which they'll certainly do if they find Mac OS X less productive. Third, the shareware programmers of the world are likely to fix Mac OS X's shortcomings within weeks of its release. And finally, Mac OS X isn't the end of the line. Apple will have another chance to get it right – in Mac OS X.1. **MW**